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BRITISH ASSOCIATION.

SIXTH MEETING: BRISTOL.

(In continuation.)

A FULL report of all the Proceedings of the Association would occupy three or four octavo volumes, and be remarkably tiresome and useless. The diamonds would be covered by the dung; and the really new and important matters be undistinguishable among the overlaying masses of rubbish and tritenesses. To discriminate and compress is the difficult office of the reporter: 1st, to have a competent knowledge of the subjects, to the investigation of which he listens; and 2dly, the talent to give a brief and clear account or analysis of their valuable parts, rejecting the verbiage and platitudes which, even under the most favourable circumstances, are apt to encumber every sectional discussion. Thus the annual volume (IV.) of the Society, containing, it may be presumed, all that was worthy of preservation at the Dublin meeting, has selected only *three* reports on the state of science, viz., Whewell on Magnetism, Electricity, and Heat; Quetelet on the Mathematical Sciences in Belgium; and Sabine's Abstract of Hansteen's "Magnetismus der Erde;" —*twelve* papers of Researches undertaken at the suggestion of the Association, viz., Mr. Baily on the Comparative Measurement of the Aberdeen Standard; Mr. Hodgkinson on Impact upon Beams; Capt. Sabine, Prof. Lloyd, and Capt. James Ross, on the Direction and Intensity of the Terrestrial Magnetic Force in Ireland; Dr. Hudson on Phenomena ascribed to the Radiation of Heat; Prof. Phillips and Mr. Gray on the Falling of Rain at different Elevations; Mr. Snow Harris's Hourly Observations on the Thermometer; Committee on Chemical Notation; Dr. Jacob on the Infra-orbital Cavities in Deers; Dr. Hodgkin on Acrid Poisons; Dr. Roupell on the same subject; the Dublin Sub-committee of Medical Science on the Motions and Sounds of the Heart; and the Edinburgh Sub-committee on the Registration of Deaths. These occupy about 260 pages; all the rest consists of short notices in about 120 pages.

From this estimate at head-quarters of what a session is really worth, we feel the more satisfied with our own mode of treating these meetings; *i. e.* taking an original view of them, making a general and historical picture of their characters and acts, and divesting the scientific proceedings of their unnecessary and uninstructive appendages, and endeavouring to publish the pith and marrow of all that is deserving of the consideration of our readers at home and abroad.

In this spirit we continue our account. The close of the week has entirely confirmed the anticipations to which its opening gave birth; and we refer to the remarks in our preceding *Gazette* with great satisfaction. It is true that after the first burst of curiosity was appeased, the theatrical crushes were not quite so offensive, but still they were marked by many instances of rudeness and vulgarity. The struggle for ices and refreshments in the passages was always unseemly; and the want of gentlemanly manners was throughout very annoying to strangers accustomed to a better state of society. The ordinary, in consequence of the impression on Monday, was much deserted; and, sooth to say, the great majority of the visitors fed at their own hotels and inns, there being extremely little of the private hospitality exercised towards them, which they experienced at former meetings. In this respect, Bristol formed a miserable contrast to Dublin; and it was very unlucky for this capital of the west to follow immediately after that splendid scene of warm-hearted liberality.* We are sorry to state this, but a regard to truth compels us; and we are determined against passing over the blots of this meeting, whether as they regard its social or scientific features, in silence, by the false and fulsome misrepresentations to which we shall, by and by, have occasion to allude, in describing the close of the drama.

The business done in the several sections also completely bears out and verifies our prognostications. Geology, as usual, took the lead so much as almost to absorb the interest of the other sections, except, perhaps, the Mechanics, where some of the papers occasionally attracted crowds. The geologists had the theatre of the Institution, a fine room, benched round, which was always full. The rooms for all the other sections but the Statistical, in the Chapter-house, were of oblong gallery-like shapes, and not very well adapted for hearing; so that we often lost parts of passages and names when the speaker or reader happened to be low-toned or indistinct. Nothing of high importance to science was produced, as a result of the annual assembly of so many eminent men; for the *début* of Mr. Cross was altogether an accident, unexpected, and uncaused by the Association. But his being brought out, in consequence of the discussion to which he was listening, and at once made public property, with all his extraordinary experiments and performances, is alone a pregnant proof of the benefit to science which the Association is calculated to produce. Evidently unacquainted with the somewhat similar experiments of Bequerel, Mr. Cross had wrought for years by his own light, and reached points infinitely farther advanced in the laboratory of nature, and more wonderful than the French philosopher had attained; and yet the chance is, that, but for his contact with this meeting, all his marvellous apparatus (which has made him a fearful modern Friar Bacon, or Dr. Faustus, to the surrounding population), and still more marvellous achievements, might have been confined to his own privacy, and never spread abroad to illumine the paths of science. Though a *chance* provincial "lion," and not one sought out by the local research we ventured to recommend; his appearance is just one of those felicitous conjunctions which must prove most auspicious to the British Association, and conduce to its real object, the advancement of knowledge.

In other respects it should be observed, that the papers read, which relate to experiments recommended by the Association, and carried on diligently and zealously from year to year, are truly valuable acquisitions to the scientific world. Such are Mr. Johnston's tables of chemical constants, Mr. Russell's papers on floating bodies in water, waves, tides, &c. &c. (of immense importance to commerce also); Professor Forbes on the terrestrial magnetic intensity, at various heights; and others, including some of the medical reports, which we pass over slightly, as not very suitable to the page meant for all classes of readers.

Inferior Temperature of the Earth.— On this subject Professor Forbes noticed some valuable experiments made by Mr. Irvine, under his directions, and under very favourable circumstances, in the lead hills of Scotland, which served to confirm the opinions of Professor Philips, (see last *Lit. Gaz.*, p. 547, col. 3). The temperature in the mine was found to be augmented 50 *Fahr.* in a descent of 95 fathoms. The professor, also, made some remarks on Artesian wells; and Professor Stevelly mentioned the application of their waters, whose heat was increased according to their depth, to purposes of practical utility; being used to free machinery employed in manufactures, &c., from ice, during the winter season. They might, also, if conducted in pipes into manufactories, be made to keep them at a given temperature, in the same manner as is done by the apparatus with water artificially heated.

In the Botanical Section, Mr. Rootsey, after shewing the large spider, exhibited samples of sugar, malt, and spirits, from the root of the *mangel wurzel;* the cultivation of which he strongly recommended for the production of these articles of consumption in 500,000 acres, suitable to the purpose, in valleys, throughout England. After procuring them by the several processes necessary, the refuse, he said, would supply almost as good food for cattle as before; with the exception of the malt, which required the herb to be kiln-dried. Beer had been made from it; and a ¼ cwt. was equal to a bushel of common malt. Mr. Rootsey farther expressed his opinion, that the sugar was similar to that of the East Indies; as sugar from the grape was equal to that from the genuine cane. Mr. G. Webb Hall was not so sanguine of results as Mr. Rootsey, from whom he differed as to the extent of produce. It was difficult, in our climate, with its effects on the acetous fermentation, to make sugar from it; and, sometimes, the plant which yielded sugar before Christmas, yielded only molasses after that period. Mr. Hall, who seemed to have great experience on the subject, thought that it never could compete with the cane in this country; and that its partial success in France was derived from the adventitious measures of government.

Resuming the thread of our report, TUESDAY was, as we have noticed, ushered in by drizzling rains; and was, throughout, what the geologists might, in their facetiousness, call a *gneiss* (nice) day. Fortunately for us, our "Boots" was guilty of his only neglect through-

* Dr. ******, an Irish gentleman, and one distinguished for his hospitalities at the Dublin meeting, good humouredly inquired of Professor ******, "Do the inhabitants of Bristol ever dine?" "I am not sure," replied the professor; "but if they do, it must be at midnight, after all their visitors are gone to bed!" The apologists for this abstemiousness say that it was not natural, but adopted because the Bristolians were told that private hospitality would interfere with, and hurt, the ordinaries!!! We have heard that Mr. Pinnie, the late mayor, and one or two other citizens, were exceptions to the general practice; and did invite strangers to their tables.

out the whole of his busy and bustling labours, and forgot the *chalk formation* on the soles, which ought to have reminded him to call us at an early hour. We were barely in time for

Section A, where Mr. Russell was expounding his experimentally tried and well considered theories on the Application of our Knowledge of the Phenomena of Waves to the Improvement of the Navigation of Shallow Rivers and Canals.

In this paper, Mr. Russell gave to the section the practical applications of certain principles of hydrodynamics, which had been developed in the course of a series of experimental researches, in which he had been engaged for several years. It is notorious, that scarcely any confidence can be placed in the theory of the resistance of fluids, as commonly given, nor in any maxims of engineering implicitly deduced from that theory. Indeed, the terms theory and practice are used as terms of antithesis, more frequently in hydrodynamics than almost any other department of knowledge. In one class of practical problems, those which are of the highest importance to a mercantile country, not only is there no advantage to be derived from theory in its present condition, but the conclusions of theory are in direct opposition to the facts and phenomena actually observed in the daily experience of practical men. Nothing is known with certainty regarding the best form of canals, the best mode of conducting the traffic upon them, the proper form of vessels for navigating these canals, nor the means of improving the existing system of internal intercourse by water, either in rivers or canals, by steam power, or by the strength of animals.

The investigations of Mr. Russell lead to important results applicable to these subjects; and the present paper regards principles which open a wide field for the improvement of the construction and transport of canals, and of the navigation of shallow rivers.

The increased resistance of a fluid to a solid moving upon its surface, is well known, and has been supposed to follow the Newtonian law. This is sometimes true, although very rarely. It is scarcely ever true of a vessel moving in shallow water. For example, these are resistances, measured in pounds weight, required to move the same vessel at different velocities.

Velocities in Miles an Hour.	Resistance in Pounds.
4	39
6	109
7½	230
9	210
9½	335
12	332
15	444

These apparent inconsistencies had been reconciled with theory by the discovery of a very beautiful phenomenon forming a most important element of the resistance. The law, connecting the resistance with the velocity of the propagation of waves in the fluid, gave to these results of experiment unity and consistency. It had been observed that the motion of a vessel through a fluid communicates to its particles motion in the form of waves. These waves are formed by the anterior accumulation of the fluid which the vessel pushes before it; they propagate themselves in the same direction with the motion of the vessel, and with a velocity nearly uniform. Their form is determinate; their length nearly constant, and their velocity nearly uniform. From the formation of these waves, the resistance is very different from the amount on the supposition of quiescence in the fluid.

The velocity of the wave is that acquired by falling through a space equal to half the depth of the fluid. In water about 4 inches deep, the velocity of the water is about 3 feet a second; in a depth of 7 inches the velocity is about 4 feet a second; at a depth of 13 inches the velocity of the wave is 5 feet a second; at 40 inches, 10 feet a second; and at 66 inches, more than 8 miles an hour.

The resistance of the fluid was found, by a long train of experiments, to be intimately connected with the formation of the waves in such a manner that the resistance was greater than in the ratio of the squares of the velocities, or less than in that ratio, according as the velocity of the wave was greater than that of the vessel, or less than it.

It was thus found, that the generation of waves at the prow of the vessel impeded its velocity, so long as its motion was less rapid than that of the wave; when, on the other hand, a sufficient power was obtained to make the vessel move faster than the waves, the heaping up of water at the prow ceased, the waves fell back towards the middle of the vessel, and, bearing it up upon their summits, carried it on with diminished immersion and resistance.

From the law of the wave the following practical conclusions are to be drawn. 1. That in every canal there are two most serviceable rates; one below the wave, up to about two-thirds of its velocity, and another immediately beyond the velocity of the wave.—2. That all velocities a little slower than that of the wave, are, in some cases impossible, in others impracticable, and in all unprofitable.—3. That in shallow rivers and canals *depth* is an element of much greater importance than breadth.—4. That banks *nearly vertical* are, for all velocities, more economical of power, and more durable than wide surfaces and long slopes.—5. That very high velocities are to be attained in shallow water with greater economy of power, by getting over the wave.

Mr. Whewell, Prof. Moseley, and others, took part in the discussion which ensued; all of them highly complimenting Mr. Russell on the useful nature of his investigations, and the skill and talent he had displayed in pursuing them. We will only venture to add the notice of Mr. Russell's communication at Dublin, of which the present is a continuation.

"Experimental Researches into the Laws of the Motion of Floating Bodies. By J. S. Russell.—It was the object of these inquiries to assist in bringing to perfection the theory of hydrodynamics, and ascertain the causes of certain *anomalous facts* in the resistance of fluids, so as to reduce them under the dominion of known laws. The resistance of fluids to the motion of floating vessels is found in practice to differ widely from theory, being, in certain cases, double or triple of what theory gives, and in other and higher velocities, much less. These deviations have now been ascertained to follow two simple and very beautiful *laws*: 1st, a law giving a certain *emersion* of the body from the fluid as a function of the velocity; 2nd, a law giving the resistance of the fluid as a function of the velocity and magnitude of a wave propagated through the fluid, according to the law of Lagrange. These two laws comprehend the anomalous facts, and lead to the following results:—1. That the resistance of a fluid to the motion of a floating body will rapidly increase as the velocity of the body rises towards the velocity of the wave, and will become greatest when they approach nearest to equality. 2. That when the velocity of the body is rendered greater than that due to the *wave*, the motion of the body is greatly facilitated: it remains poised on the summit of the wave in a position which may be one of stable equilibrium; and this effect is such that at a velocity of 9 miles an hour the resistance is less than at a velocity of 6 miles behind the wave. 3. The velocity of the wave is independent of the *breadth* of the fluid, and varies with the square root of the *depth*. 4. It is established that there is in every navigable stream a certain velocity at which it will be more easy to *ascend* the river against the current than to *descend* with the current. Thus, if the current flow at the rate of one mile an hour in a stream 4 feet deep, it will be easier to *ascend* with a velocity of 8 miles an hour on the wave than to *descend* with the same velocity behind the wave. 5. That vessels may be propelled on the summit of waves at the rate of between 20 and 30 miles an hour."

The second paper, Professor Powell's Refractive Indices, &c., we reported in our last.

Sir David Brewster read a most interesting paper on a singular developement of Polarising Structure in the Crystalline Lens, after death. The inquiries which form the subject of this paper, were made by comparing the changes which take place in the polarising structure of the crystalline lenses of animals in old age, with those after death, the lenses being placed in distilled water, as being the only fluid which did not affect the transparency of the cepsili. From these investigations Sir D. Brewster has been led to conclude that there is in the crystalline lens, a capability of being developed by the absorption of the aqueous humour — that a perfect structure is not produced until the animal frame is completely formed, and that when it begins to decay, the lens changes its density and focal length, and sometimes degenerates into that state called hard and soft cataract.

It is probable that by pursuing these researches means may be discovered for the prevention, and remedies for the cure of the disease.

In the course of his observations on lenses, Sir David gave a whimsical illustration of the condition of science in one of our public establishments, which it may be amusing to notice here. In investigating the subject, one of much national and universal interest, he wanted a few crystals, of no money-value whatever, and such as are the refuse and sweepings of the British Museum. To that institution he accordingly applied for the desiderata in question, and in return received a most friendly and respectful letter from the officer in trust of the department, regretting exceedingly that, however useless the things were in themselves, the wisdom of Parliament had rendered it imperative that they should be kept at the Museum, and not allotted to any scientific or other purpose. He added that, if Sir David chose to come to London (some five hundred miles from the place where he was pursuing his experiments), he might be allowed to try them on some of these rubbishy materials. Well might the able investigator say, that this was very like the legislation as to the use of beer—*it must be drunk on the premises!*

The last paper of the day was an Inquiry into the Possibility and Advantages of the Application of Magnetism as a Moving Power to Machinery, by the Rev. J. W. M'Gauley, alluded to in a variety in the *Lit. Gaz.* of Aug. 20: and in continuation, or, perhaps, we should rather say diffusion, of the same inquiry which the author communicated to the Meeting at Dublin, as reported in the Transactions recently published, pp. 20, 21, 22, 24, and 25.

The reverend gentleman exhibited his apparatus, and occupied the Section a very long while in its explanation, and with his remarks on the nature of electro-magnetism.

It is with reluctance we find ourselves called upon to cite this as an example of want of proper care and management in conducting the business of the Association. Papers, we believe, must be approved by the chiefs of the Section before they are permitted to be read; and it argues either gross inattention or no small degree of ignorance in the present instance, that they allowed so much valuable time to be wasted. When Mr. M'Gauley finished, Professor Ritchie addressed the assembly, and expressed his regret that individuals, intensely occupied, perhaps, with their peculiar pursuits, did not find time to peruse what was done and published by others. If Mr. M'Gauley had not been so engrossed, he must have known that every part of his theory, and all his experiments, had appeared in several of the most widely circulated scientific publications. Of these he cited one portion in the *Annales de Chymie*, and other portions from English works, within the last five years, and up to the present date. One hypothesis had been exploded by a pupil of his own; and others had been demonstrated to be inefficient for any useful purposes by other authorities. Mr. Stevelly also animadverted on the same topics; and Mr. M'Gauley, being called upon, offered no reply to these overwhelming criticisms. And, notwithstanding all this, his Essay was highly panegyrised in the *resumé*, on the stage, on the Wednesday evening!!

Chemistry. Section (B).

Professor Cumming in the chair.—The first subject to which the chairman called the attention of the section was a paper by Mr. Thomas Exley, A.M., on rendering chemistry a mathematical science. The paper is entitled, "Important Facts obtained Mathematically from Theory; embracing most of those experimental Results in Chemistry, which are considered as ultimate facts." Mr. Exley observed, "My object is to place chemistry under the domain of mathematical science, and to establish my new theory by legitimate but very easy calculations." The principles on which the whole theory rests are:—1. That every atom of matter consists of an indefinitely extended sphere of force, which varies inversely as the square of the distance from the centre, and that this force acts towards the centre, and is called attraction at all distances, except in a small concentric sphere, in which it acts from the centre, and is called repulsion. 2. That there is a difference in atoms, arising from a difference in their absolute forces, or the radii of their spheres of repulsion, or from both these. Three classes of atoms were noticed—tenacious, electric, and ethereal atoms. In respect of the attraction in the first principle, this theory agrees exactly with the theories of Newton and Boscovich; but, after that, where chemistry and its connate sciences are concerned, they are unlike in all, in every particular. On leaving the attraction stated in the first principle, in which the three theories agree perfectly, Newton and Boscovich still go together in conceiving alternate spheres of attraction and repulsion, regulated by unknown laws; Boscovich arrives at the centre with a sphere of repulsion varying inversely as the simple distance, and, therefore, ending with an infinite force at the centre: Newton terminates in a small solid, which is only an infinite force long before we reach the centre: the new theory rejects all these unsupported hypothetical forces and their feigned alternations, and, reducing the whole to the utmost simplicity, admits of but one sphere of repulsion, in which the law of gravitation is, without deviation, continued to the centre, where the force is the infinite force of Boscovich, an infinite number of times: the direction is reversed at the surface of the sphere of repulsion; but the continuity of the quantity, and of the law, of force is not violated. The inductive philosophy demands, in continuance, unless the contrary can be shewn; we have as much right to say, that the law of gravitation does not exist in the innumerable and immense spaces where observations have not been made, as to say that it does not exist in the sphere of repulsion, that important small space in which chemistry and its immediately connected sciences are solely occupied. It was shewn that the atomic weight of hydrogen being taken equal, one, as the unit of comparison, that of oxygen should be sixteen instead of eight, as used by the British chemists. One of the arguments was drawn from the analogous composition of sulphurous and carbonic acids, concerning which both sides are agreed; and steam and sulphuretted hydrogen, concerning which they differ. 1. Sulphurous acid is the sole gaseous product when sulphur is burnt in dry oxygen gas, and the resulting volume is the same as that of the oxygen consumed. 2. Carbonic acid is the sole gaseous product when carbon is burnt in oxygen gas, and the resulting volume is the same as that of the hydrogen consumed. 3. Steam is the sole gaseous product, when oxygen is burnt on hydrogen gas, and the resulting volume is the same as that of the oxygen consumed. 4. Sulphuretted hydrogen is the sole gaseous matter when sulphur is burnt in hydrogen gas, and the resulting volume is the same as that of the hydrogen consumed. These exact analogies, with others, shew clearly that they agree in composition. But all parties allow that each of the first two contains three atoms; therefore, we ought to conclude each of the others contains three atoms: therefore, sixteen is the atomic weight of oxygen. Another proof may be taken from carbonic and nitric oxides. 1. A volume of carbonic oxide is double that of its oxygen, and, combined with another volume of oxygen, it becomes carbonic acid, without change of volume. 2. A volume of nitric oxide is double that of its nitrogen, and, combined with another volume of nitrogen, it becomes nitrous oxide, without change of volume. These are, therefore, analogous in regard to composition. Now, all agree that carbonic oxide is one atom oxygen and one carbon; therefore, nitric oxide is one nitrogen and one oxygen; but by weight they are as 14 to 16, and 14 is the weight of nitrogen; therefore, 16 is that of oxygen. Other equally cogent arguments were advanced. It was also shewn by ten striking examples, that twelve, the atomic weight of carbon, as determined by Dr. Thompson, is nearer the truth than 12·25, as given by Berzelius. The following propositions were demonstrated:—1. When ethereal matter is contained in a vessel under pressure, a tenacious atom placed in it will acquire an atmosphere of ethereal matter, the strongest sorts will occupy the lower strata, and if electric atoms be present, they will form the lowest stratum. When two tenacious atoms are present, they will condense ethereal matter in the line between them, and especially the stronger sorts, and the electric atoms will be brought into that line. 2. The mutual actions of the whole mass in the vessel is a repelling force between any two atoms inversely as their distance. 3. If the absolute force, or spheres of repulsion, of the tenacious atoms in the vessel be increased or diminished, the repelling force mentioned in proposition 2 is not altered. Here it was shewn that equal volumes of gases contain an equal number of atoms. 4. That the densities of gases vary as the compressing force. 5. That the volume varies as the temperature. 6. That the absolute force of a tenacious atom being given, there is a certain magnitude of its sphere of repulsion, at which it will retain a maximum quantity of electric atoms. 7. Elements combine chemically in definite proportions. Many of the above propositions were stated as known facts, but here they were shewn to be necessary consequences from the two principles of the theory. 8. Taking each elementary atom as representative of a volume; then, in all strictly chemical combinations, that is, whenever there is any condensation, the resulting volume is always, without exception, either one or two volumes exactly, whatever may be the number of volumes which combine. This proposition contains, simplifies, and extends the theory of volumes,—a theory derived from facts, and approaches nearly the result before us, but not fully so; it was not established that in all strictly chemical combinations the result is always either one or two volumes exactly. After proving it from the theory, it was proved by induction, from fifty-seven compounds, all, as far as known to him, whose specific gravities had been determined by experiment, and the calculated specific gravities in every case except boro-choloric acid, agreed with those by experiment within the allowable errors in such cases. It was observed that these facts could not be explained on any of the received theories. A table of the 57 compounds was presented before the Section, containing the calculated and the experimental results, with the authorities; and a figure, shewing how the atoms may be disposed according to the theory so as to give the exact volumes. Of these, 7 were denominated cohesive combinations, 18 chemical combinations in single groups, and 32 chemical combinations in double groups.

The thanks of the section were voted to Mr. Exley by acclamation for this paper. Dr. Dalton expressed some doubts as to the doctrine of volumes, as no reasons had been assigned for their uniting. On the other hand, Mr. W. Herapath and Dr. Thompson (of Glasgow) spoke highly in praise of the theory, which they considered one of the greatest boons ever bestowed upon chemistry. Immediately after the discussion, indeed, Dr. Thompson rose from his seat, went to Mr. Exley, and inquired if he would publish his paper, saying, "You have more of it, have you not?" We understood the answer to be in the affirmative.

A paper on the power of certain gases, carbonic oxide, and olefiant gas, to prevent the union of oxygen and hydrogen, by Dr. Henry, was next read. This *quæstio vexata* has perplexed the best chemists; and the author, after many experiments, concludes that the *interference* is only exercised by gases having an affinity to oxygen.

Mr. W. Herapath next read a paper on Arsenical Poisons, which he illustrated, by relating the circumstances of a memorable trial which recently took place at Bristol, and attracted great public attention, as one hardly equalled in the annals of criminal jurisprudence. As it is of much popular interest, we copy the abstract of this paper.

Mr. Herapath observed, that as arsenical poisons were obtained with so much facility,

and their operation was so deadly, they were the principal means resorted to by secret poisoners. It became, therefore, essential to the safety of the community, that every new fact relating to their administration, operation, or detection, should be made known. He was not aware that any well-authenticated case had been published where death was occasioned by realgar, or red arsenic; but the Burdock case was one of this kind. It would, perhaps, be remembered that the victim, Mrs. Smith, had been buried fourteen months; that, upon exhumation, orpiment was found in the stomach, and the body was partly converted into adipocere. In prosecuting his experiments in this case, he conceived the idea of identifying the poison found with that sold the witness, Evans, by Hobbs, the druggist, through an impurity he discovered in the poison of the stomach. With this view, he purchased some out of the same box, and requested that it might be of the same kind as that sold the prisoner's agent. It then transpired that the box contained three different substances mixed together; white, yellow, and red arsenic: the two former in small lumps, the latter in powder: that it was the powder of realgar only which had been administered, although it was undoubtedly found as yellow orpiment in the exhumed body. In tracing the possibility of change, he found that two agents, sulphuretted hydrogen and ammonia, would either of them convert realgar into orpiment. Now, as it was well known that both of these gases were evolved during putrid decomposition, there could be no difficulty in accounting for the change of colour. But, to place the matter beyond all doubt, he made a direct experiment by poisoning an animal with some of the same realgar, and found that, after putrefaction, it had been changed as in the case of Mrs. Smith. It would, perhaps, be recollected, that the conviction of the prisoner was mainly owing to the evidence of a little girl, who deposed that she saw Mrs. Burdock put a powder into some gruel, and afterwards to administer it to Mrs. Smith. At the time considerable doubt was entertained of the truth of her evidence, from its being invariably precise even to a word; and, also, from the difficulty of believing that any person would be found so foolhardy as to mix and administer poison before a child, a stranger. But what he had stated, proved to demonstration that her evidence was correct, for she said the gruel given "was of a nasty *red* colour;" a colour she could not have had an idea of unless she had seen it, as nothing had transpired of red arsenic; and, had she invented a tale to account for the appearance of the body, or had she spoken from what she had heard from others, she would have deposed to its being of a yellow colour.

From what had occurred, therefore, it was clear that the realgar of the shops would cause death. That half an ounce given at twice (by the prisoner's confession), was sufficient for that purpose; that realgar became orpiment during putrefaction; that realgar, like arsenous acid, had a tendency to control putrefaction and convert bodies into adipocere. During the experiments upon this case, he found that the microscopic system of testing, which was first introduced by Dr. Wollaston, and which he (Mr. H.) constantly followed, could be made to improve the very beautiful reducing process proposed by Dr. Christison; and also furnished an excellent method of proving to the jury the presence of arsenic. Mr. H. here described several chemical tests by which the presence of arsenic may be discovered, and described the method in which he found arsenic in the case of Sophia Edney, who was convicted, at the March Assizes at Taunton, of poisoning her husband; and concluded by observing that the recent plan of discovering arsenous acid, by converting it into arsenuretted hydrogen, and depositing the arsenical crust during its combustion, was the most elegant that could be conceived, at the same time that it was the most sensitive; but it would require a few modifications to make it the best for exhibition to a jury. First, it was essential that the zinc used to procure hydrogen should have been treated by the experimenter in the same way without arsenic; otherwise the counsel would embarrass the witness by asking if he was certain that arsenic was not contained in the zinc; and, next, the metallic crust should be so received as to be kept from atmospheric air, otherwise it would lose its lustre by passing into the "fly powder" of the Germans. He had found it best to proceed thus:—instead of a plate of glass to cool the flame and receive the crust, he used one of mica, with three drops of water in separate places on one of its surfaces; if the flame was allowed to play under one of those drops the evaporation of the water kept the part cool, and the crust was thicker, while the risk of fracture was avoided; then, by inverting the plate and holding the drops in succession some little height over the flame, they became solutions of arsenous acid, and could be tested with three reagents as before stated; and, if it was necessary to make a quantitative experiment, the products of the flame could be condensed in a large globe; the arsenous acid dissolved and precipitated by sulphuretted hydrogen. The part of the plate of mica, containing the crust, should then be cut off, and introduced into glass tubes hermetically sealed, like the slips of blotting paper, containing the coloured results of the reagents.

Geology. Section (C).

We now give the heads of the Classification of the old Slate Rocks of Devonshire, with the explanation of the true position of the Culm Deposits of the central portion of that county, as laid before the Geological section on Tuesday, by Mr. Murchison, and which led to the spirited discussion described in our last *Gazette*. Mr. Murchison began by observing, that he was about to submit a mere outline of a more detailed memoir on the physical structure of Devonshire, which, in conjunction with Mr. Sedgwick, he purposed to lay before the Geological Society of London. One object they had in view was, to remedy the defects in existing geological maps, as to colouring subdivisions of formations; and another, to ascertain, by actual sections, the true position of successive deposits, and their natural subdivisions, so as to bring them into comparison with other corresponding deposits, and to determine their true place in the succession of British formations. By help of a section, the following succession of deposits in the ascending order was determined, beginning at Linton: 1. A system of slaty rocks, containing a vast abundance of organic remains, generally in the form of casts: these rocks sometimes pass into a fine glossy clay slate, with a true transverse cleavage; sometimes into a hard quartzo flagstone, not unusually of a reddish tinge; sometimes into a reddish sandstone, subordinate to which are bands of incoherent shale; in North Devon they are very seldom so calcareous as to be burnt for lime, but in South Devon, rocks of the same age appear to be much more calcareous. This series is finely exposed in the Valley of Rocks, and the valley of the Lyn, but its base is no where visible in this line of section. 2. A series of rocks, characterised by great masses of hard thick-bedded red sand-stone and red flag-stone, subordinate to which are bands of red, purple, and variegated shales; the red colour occasionally disappears, and the formation puts on the ordinary appearance of a coarse silicious grey wacke, subordinate to which are some bands of slate, but too imperfect to be used for roofing. This system contains very fine organic remains; it is several thousand feet in thickness, occupying the whole coast from the west end of the Valley of Rocks to Combmartin, being thrown back by a dip into the cliffs between Porlock bay and Linton; it reappears in North Hill and the Quantock Hills. 3. The calcareous slates of Combmartin and Ilfracombe; of very great aggregate thickness, abounding in organic remains, and containing in a part of its range at least nine distinct ribs of limestone, burnt for use. This limestone is prolonged into Somersetshire, and is apparently the equivalent of the limestone on the flank of the Quantock Hills. 4. A formation of lead-coloured roofing slate of great thickness, and occupying a well-defined zone in North Devon, its upper bed alternating with and gradually passing into a great deposit of green, gray, and purple, or red sandstone, and sineaceous flagstone. These silicious masses alternate with incoherent slates, and are in some places surmounted by great masses of red unctuous shale, which, when in a more solid form, generally exhibit a cleavage oblique to the stratification. 5. The Silurian system, resting conformably on the preceding, of great thickness, on the western coast of North Devon, occupying a zone several miles wide, and containing many subordinate beds and masses of limestone. In its range towards the eastern part of the county it gradually thins off; but its characters are well preserved, and throughout it contains an incredible number of characteristic organic remains. 6. The carbonaceous system of Devonshire. This system is very greatly expanded, stretching, in a direction E. and W. across the county, occupying the whole coast from the neighbourhood of Barnstaple to St. Gennis, in Cornwall, and on its southern boundary ranging so close to Dartmoor, that its lower beds have been tilted up and mineralised by the action of the granite. This great formation is therefore deposited in a trough, the northern border of which rests partly in a conformable position, upon the Silurian system, and partly upon older rocks, partly of the division, No. 4. Its southern border rests on the slate rocks of Cornwall and Launceston, and on the north flank of Dartmoor. From one side to the other it exhibits an extraordinary succession of violent contortions, but its true place in the ascending section admits of no doubt whatever. In some places it is overlaid by patches of green sand, and in one part of the coast west of Bideford it is overlaid by the conglomerates of the new red sandstone, which are seen for half a mile resting unconformably on its edge. The lowest portion of this vast deposit is generally thin-bedded, sometimes composed of sandstone and slate, with impressions of plants; sometimes of indurated compact slate, both in an earthy and crystalline state. These beds are surmounted by alternations of shale and dark-coloured limestone, with a few fossils. Subordinate to these beds, there are on the west side of the county many thin veins and flakes of culon and anthacite. On the eastern side of the county the coal is wanting, and the calcareous beds

are much more expanded. On the south side of the great trough, the calcareous bands and dark shales are well exhibited; but near Oakhampton are, as above stated, mineralised by the action of the granite. The higher beds of this deposit are well exhibited on the coast west of Bideford, and consist of innumerable alternations of ferruginous sandstone, flagstone, and shale, containing in several places concretions of ironstone, very often exhibiting impressions of plants; and one extended tract of country, containing at least three beds of culm or stone coal, associated with shales, contains many plants of species not known in the true coal measures. Though in a state of greater induration than the ordinary coal measures of England, and in most parts almost destitute of any trace of coal, yet even in these respects it differs not from a great unproductive tract of the coal field of Pembrokeshire. Therefore, from the order of super-position, from the mineral structure, from the absence of that slaty cleavage which characterises the older rocks on which the deposit rests, and from the specific character of its organic remains, they had no hesitation in classing it with the *carboniferous* series.

Mr. De la Beche read a paper on the Connexion of the Geological Phenomena of Cornwall and Devonshire with the Mineral Veins, and exhibited the splendid ordnance map of Cornwall, on which its geological features are marked. The elvans, a vein of granitic character, had been thrust through the upper surface of the earth, through masses of greenstone sometimes imbedding slate rocks; and it appeared that the metallic lodes had also been, in like manner, protruded through the superior formations. The same coincidence occurred in Blackdown; but the veins there were destitute of valuable materials; whereas in Cornwall they were filled with rich ores. From his premises, he was of opinion that the best veins of metal would be found near the granitic elvan, and in cross courses. In slate, no mining speculations were likely to repay those who wrought in that substance.

A discussion of much interest to mining and those who embark in it, was carried on for some time by Mr. Hopkins, Mr. Fox, Mr. Taylor, Mr. Conybeare, and Mr. Sedgwick. Mr. Fox, in particular, described a singular experiment, respecting which, from the distance we were placed in, and from the excitement naturally arising out of the many striking disclosures made to the Geological section during the week, a slight error crept into our description, which we have now great pleasure in correcting, as the results are of very high importance. Mr. Fox has, for some time (and, hitherto, very successfully) turned his attention to the formation of mineral lodes, or veins; and to the principle of electro-magnetism, as applied to these formations. It had been observed by Mr. Fox, and by others acquainted with the peculiar structure of the Cornish metalliferous deposits, that the same lode would sometimes contain copper pyrites; and within a short distance, and merely separated by the common argillaceous substances, sulphate of copper, or some other modification of the same material. Whenever this occurred, the lode was generally found to be saturated with water, containing various salts; a circumstance that seems to influence, in some degree, the change in the mineral deposit. Mr. Fox, applying the exercise of his strong and highly cultivated mind to these phenomena, immediately conceived the notion that electro-magnetism was the prime agent in the production of this extraordinary change. To prove this, he procured an earthen pan, which he divided into two compartments, by inserting in the centre a barrier of clay saturated with dilute sulphuric acid, and jammed down closely. In the one compartment he placed water, charged with the sulphate of copper; and in the other, dilute sulphuric acid. In the sulphuric acid he placed plates of zinc, connected by a rod and wire with a piece of copper pyrites, suspended in the water contained in the other compartment. In a short time, electro-magnetic action commenced. The sulphur passed from the water through the barrier of clay to the zinc, and there not being sufficient sulphur in that water to form by this union sulphate of zinc, the copper pyrites was deprived of a portion of its sulphur, and changed to common gray copper! Mr. Fox thinks he shall be enabled to complete this experiment without the dilute sulphuric acid, and merely by water.

The Geologists, as the night was too wet for Miller's gardens, also held an evening meeting, at which Dr. Hare of Philadelphia said, he trusted he might be allowed to repeat here what he had stated when he addressed the section of chemistry, that it was not without considerable emotion that he appeared before the *savans* of this much-revered country, the country of his ancestors. How was it possible he could love his father, and remember the kindness he had received from him, without revering the country where his good qualities received their origin? On landing at Falmouth he felt as if he could have kissed the soil of Old England; and there was this advantage from science, that though they had sometimes jars, as brothers have, from different views of national interest, they were united on questions of science. He had brought with him a model of his principal instrument, the construction of which he would endeavour to explain to the section. Dr. H. proceeded to remark on the successive improvements that had been adopted in the galvanic pile, and made several experiments producing successive varieties of deflagration, in which nothing new was discoverable.

On the removal of large blocks, or boulders, from the rocks of Cumberland, and transferring them to various distances.

Professor Phillips said, a question had been proposed by the Geological Committee relative to the action of water on stratified rocks of peculiar kinds. It was well known that these were questions of frequent occurrence, but of difficult illustration, which concerned the geographer as well as the geologist. One of these was the action of water in transferring portions of rock to a distance. He should confine himself to a part of the country where he made personal observations. The Professor then described the leading features of the geography of the North of England between the Tyne and the Humber, the Solway and the Mersey. He had seen rocks drifted from the Cumbrian mountains to a distance of a hundred miles from the rocks whence they must have originated; many of them, fortunately, were landmarks and boundary-stones of parishes, otherwise much of their curious history would have been lost under the hammer of the mason and road-maker. It was now a sure truth, that the solid land is not immovable—that it rises and falls; so that, for the purposes of reasoning, any one might be entitled to suppose an elevation of the land. There was, however, but one mode of applying such an hypothesis; it must be tested by an examination, and the structure of the country, geologically speaking. Now, supposing an elevation to have taken place in Cumberland, the whole matter would be plain, if the geological structure of the country would allow the full application of that hypothesis. But this was impracticable: the evidence of structure was against it. The Professor proceeded to offer proof that in this district the present configuration of the country had influenced the distribution of these blocks of stone, for it was established that they were accumulated in certain districts, according to the leading circumstances of physical geography, and had been drifted in certain lines, so as to shew that the causes, whatever they were, which produced the phenomena, were not capable of overcoming, except in a limited degree, the natural obstacles of the country. He held it to be an important circumstance on this one condition, which must be fulfilled on any satisfactory theory.

Professor Sedgwick concurred with Mr. Phillips, that it was incontestable that the distribution of those boulders was modified by the present surface, and contended that their removal was effected by the powerful local action of water.

Mr. Murchison did not object to the doctrine of powerful drifts; but, from the presence of a large portion of marine shells of existing species in connexion with those boulders, in extensive districts, it was impossible to come to the conclusion, that the present physical features of *all* parts of England had been instrumental in the diffusion of those boulders. He held that there existed large portions of land where they were found, which were at a comparatively modern era, under the level of the sea, and that they had been placed in their present positions by the movements of elevation of unequal tensity.

After some remarks from other gentlemen, Professor Buckland said, he was prepared to maintain that the counties of York and Devon, where the bones of now extinct animals were extensively found, were dry land before the arrival of blocks of granite, such as formed the present subject of inquiry. Unless, therefore, it could be shewn that those tigers, stags, &c., were in the condition of mermaids, the argument against Mr. Phillips's theory was conclusive.

Zoology and Botany. Section (D).

Dr. Richardson read a second part of his paper on North American Zoology, which, indeed, is an essay of much general interest; but, in our opinion, it ought not to have been suffered to fill up so very much of the time of this section, seeing that all its leading features were already familiar to the scientific world, both from the proceedings of societies in London and the diffusive powers of printing. Dr. Hare, also, was often reading papers previously printed and circulated. Surely these ought not to be brought forward, and repeated as novelties, at the meetings of the British Association; preventing, as they must do, communications of a newer order, and such as might make us acquainted with valuable facts (unaccompanied by prolix reasoning and argument) within a short space of time.

Mr. Bowman read a paper on the mode of ascertaining the age of yew trees, by counting the rings and lines of the trunk; and instanced several experiments which he had made. The mean average of the number of lines which a tree increased in a year was two, or forty-four to the inch; and the result of his experiments went to prove that Decanoul was wrong in his experiments in this respect—that he made the old trees too young, and the young ones too

old. With respect to the growth of yews in churchyards, many reasons had been assigned for it; but it occurred to him that the longevity, the indigenous nature of the tree, and its being an emblem of immortality, led our forefathers to deck the place of the dead with them in lieu of cypress. This was one of the many customs which were engrafted on Christianity at its introduction; and it would be a barbarism to destroy an emblem that we might meet again hereafter.

Mr. Rootsey, in allusion to what had been said with regard to the growth of yews in churchyards, remarked that the Scotch, Welsh, and Latin signification for a church, was a large circular structure, or what we now call a churchyard; and, therefore, it was highly probable that there were many yew trees in existence of higher antiquity than the buildings which they surrounded.

Professor Henslow said he had come to the conclusion, that one-third of the age of Decanoul's oldest trees ought to be struck off, but in the other particular he did not agree with Mr. Bowman.

[None of the speakers alluded to the fact, that the cultivation of yew trees was not only encouraged but enforced by our feudal rulers, to whom the wood was so essential in forming bows for their vassals and retainers.]

The rest of the meeting was employed in miscellaneous conversation respecting seals, a plant from Guiana (*Norontea scandens*), &c.

Dr. Riley exhibited the stomach of the seal caught in the Severn, and stated that, on preparing the skeleton of the animal, he found from thirty to forty pebbles contained in it; which fact he mentioned, to point out the manner in which it is said seals catch fish. It is a prevalent opinion that the seal, when fishing, attaches its legs to the bottom, and remains in a vertical position, and, when a fish passes over its head, it darts up and strikes it transversely. Now, according to the depth of water, it takes in a quantity of pebbles as ballast, as it were, being obliged to sink itself. Dr. Riley also exhibited the venous system of the seal, by which it was enabled to dive so admirably. It collected a quantity of blood on the right side, the same as they found was the case with those persons employed in diving for pearls.

Mr. Hope exhibited a hermaphrodite Lucanus from North America, and some curious discussion ensued on the subject of these vegetable monstrosities. Mr. Yarrell mentioned similar occurrences which he had observed in lobsters, a fish, and a fowl, in which the double sex was obvious.

Mr. Hope then read what we may style the most literary paper of the meeting — on Certain Notions of Antiquity derived from the Ancients; in the course of which he observed, that from the waters of the Nile spring into life myriads of insects; and with annual fertility the Egyptians were plagued with flies. It was curious that five out of the ten plagues of Egypt were from insects, viz., the plague of the waters of the Nile being turned to blood, which might have arisen from the insects contained in it, of lice (from the soil), of hail, of frogs, and of flies, probably generated from the heaps of putrid frogs. Cleanliness not being much esteemed in Egypt, flies multiplied exceedingly, which led the people to erect and worship gods, who might be able to rid them of their tormentors. It was the general opinion in ancient times, that spontaneous generation was caused by fire, earth, and water; this opinion was prevalent so late as the tenth century, and was still held in Africa and Asia, and also by one class of naturalists in Europe. He should say that, reasoning from analogy, there was no such thing as spontaneous generation. Mr. Hope also referred to the transmigration of souls; the belief in this he thought originated from the changes in the animal kingdom, which, in conclusion, he described. The religion, worship, and superstitions of the Egyptians, were finely derived from the nature of their soil, the Nile, its muddy banks, and other natural phenomena. Among the rest, the doctrine of the soul's metempsychosis could be traced to the metamorphoses of insects — the chrysalis and pupa states furnishing the ideas, wrought into an idolatrous worship.

Mr. G. W. Hall then made some observations on the effects of lime variously applied to different soils and different crops, and the quantity and modes most beneficial to vegetation.

Medical Science (E).

Dr. Pritchard read a very able paper on the Treatment of some diseases of the Brain; and Dr. Houston, one on a twin-fœtus, which had neither brain, heart, lungs, nor liver. Mr. Carmichael treated on tubercles.

Statistics (F).

Mr. Kingsley produced formulæ and tables, which he held would correct errors at present existing in the system of Savings' Banks; but it did not appear to us that all his data were correct, nor his proposed remedies efficient, and we consequently refrain from entering upon the details.

Baron A. Dupin read an intelligent paper on the influence of the prices of corn on population. The Baron prefaced his observations by stating, that it was formerly held to be indisputable that times of great plenty were favourable, and, on the contrary, that times of scarcity were adverse to vitality. He had procured, to be prepared in France, from the eighty-six departments — and in France the returns were officially and accurately taken — and also returns of baptisms, burials, and marriages: and he found that, in the fifteen years preceding the cholera, there were more marriages and births, and fewer deaths in the period when corn was at a medium price.

In reply to remarks made by Col. Sykes, Lord Nugent, Mr. Fripp, Dr. Taylor, and Mr. Visger, the Baron stated, that the difference in France between the lowest price and the medium price, was as 34 to 40; and, though this variation made but little difference to the consumer, it was not so to the grower, who had to estimate it in large quantities. In France the land was more divided than in England, the number of growers being no less than five millions; the ordinary tenure was one-half of the produce, the leases being three, six, and nine years; and hence it follows that, in times of scarcity the proprietor bore one-half of the suffering, as, when the prices fell, the contract still continued. He did not mean to contend for the position, that, abstractedly, a season of plenty was inimical to population, but the results he had given made it obvious that low prices were not, in themselves, the constituents of prosperity. The solution might be that, a sudden fall in prices, though regarded as advantageous to the mass of the population, might entail great suffering and distress on those engaged in agriculture, and this would account for the results he had given. Another fact, too, must be kept in view, that labour always bore a proportion in value to the price of commodities. At the close of the discussion, the thanks of the meeting were unanimously voted to Baron Dupin.

Section (G.) *Mechanics.*

Mr. Hawkins read a paper on an Improvement on Neper's Rods, for facilitating the Multiplication of High Numbers, with little liability of error; the invention of J. N. Cossham, Esq. of Bristol.—The invention consists in cutting each of Neper's rods into cubes, and in stringing the cubes together by means of pins passing through two perforations in each cube, made at right angles to each other, parallel to the figured side. By this arrangement the cubes may be readily placed in such positions, in respect to each other, that the product may be obtained by addition only, without the necessity of transcribing the figures from the rods previous to the addition; thus avoiding a great liability to error, and effecting a saving of time in the calculation.

Dr. Daubeny explained the properties of an instrument he had contrived for obtaining sea water at great depths.

Mr. Braham explained an improvement he had made in the mariner's compass. It was found that, in consequence of the vibratory motion in steam vessels, the compass got out of order. He, therefore, proposed to put a fluid in the box of the compass, so that the card might float in the fluid. It was obvious that a card on a fluid would be liable to injury and decay; he had, therefore, caused the points of the compass to be painted on porcelain, which he had affixed to a flat piece of cork, and thus it was kept floating upon the fluid, and the motion of the steam vessel had no effect upon it.

This Section also met in the evening, when Professor Whewell delivered a lecture on tides; and Dr. Lardner another on Steam Communication to India.

Thus terminated the science of Tuesday; and having brought our report down in regular series to that period, we shall postpone the closing up of the fissures we have left in the later scientific proceedings, and go on to describe some of the collateral circumstances.

The following, in the Zoological section, may be read as an instance of philosophers' funning:

Wednesday.— Remarks on the Cow Fish, or River Cow (Manita fluviatalis), *by Dr. J. Hancock.*—Mr. Rootsey read a paper describing this animal, a specimen of which was exhibited. The animal was now only found in the lakes in the interior of Guiana, far away from the European settlements, and the name chosen for it, therefore, was very inappropriate. Some authors asserted that the animal frequently weighed 8000 lbs., and measured twenty-eight feet in length; but he (Dr. Hancock) having seen many, and examined them, thought they very seldom exceeded 600 lbs. in weight and six feet in length. The flesh of the animal is very good, very much resembling veal, very easy of digestion, and the soup made from it is delicious and equal to turtle, though not so gelatinous; the flesh will also keep wholesome without salt for many months. The bones are highly esteemed by the natives; and when taken in a powder are highly beneficial in complaints of the kidneys. The animal is believed to bellow like a bull, and to fight desperately on some occasions. It moved through the water with great rapidity, not, however, by moving the tail laterally, as other fish, but horizontally, up and down. It had been asserted that this animal could not live on shore; but this he doubted, as it was unable to breathe like a fish the respirative organs being nearly the same as those of terrestrial animals; and it was, therefore, obliged to come to the surface to respire, and always slept with its nose above water,

under some sheltering bank. Indeed, nature seemed to have placed it in an element which it was not fitted for; it was unable both to breathe and procure food under water, and it was thought that, had it legs to walk on shore, it would abide there. It was also suggested that it would be desirable to find pasturage for these animals connected with small pools of water, and thus droves of the sea-cow might be formed; and a case was instanced of a sea-cow being kept in a small lake in one of the West Indian Islands for twenty-six years, which became so tame as to be pleased with the human voice; to come when called; and to swim across the lake with children on its back without plunging beneath the surface of the water. The upper part of the body approximated to the human form, and its posterior part to the fish; and when it rose out of the water to gather food from the banks, it had much the appearance of what is called the mermaid, and from it probably the fables of mermaids and the tritons originated; particularly as the Indians usually had painted on the sterns of the canoes a figure similar to that which the cow-fish presented when in the position described, which they styled "the man of the waters."

Dr. Riley, at some length, corrected an error which Baron Cuvier supported with respect to that animal.

Mr. Rootsey hoped he might offer an observation on the subject without exciting ridicule. Being himself an Utopian in thinking, he was desirous of cultivating and thrusting the land as far as possible into the water; and he thought it desirable to provide pasturages for this animal, so that it might become the universal food of mankind.

Dr. Riley said, the suggestion of Mr. Rootsey was exceedingly well timed. The repute of Bristol for turtle was well known; but since the annihilation of the aldermen, the supply had become so exceedingly small, that they had not been able to furnish the British Association with one ounce of this delicacy. He hoped, therefore, that Mr. Rootsey would stir up his friends in this city to cultivate the sea-cow; so that they might be able to form another Montague to supply a delicacy equal to turtle. (Laughter.)

The section then proceeded to other matters.

On the Mode of Preserving Animal and Vegetable Substances.— Dr. Macartney read an interesting paper on this subject, in the course of which he stated, that, by washing insects, skins of animals, or flowers, in essential oil of cloves, or, indeed, in any essential oil, they might be preserved for a great length of time without injury. The thanks of the meeting were voted to the doctor for his communication.

The Rev. Mr. Hope read a communication from Mr. Raddon, on the Means of obtaining Insects from Turpentine, and exhibited two cases containing a vast number of very fine specimens. Mr. Hope observed, that in future it would not be necessary to proceed to America to procure insects, as it was only to go to the warehouses of those merchants who imported turpentine, and, by searching through it when boiling, they might very shortly obtain sufficient specimens to form fine collections at a few shillings' expense.

In Geology we had a competing trait of drollery, with the Zoological sea-cow. It is thus reported in the Bristol journals.

Wednesday.—Geological Puzzle.—The chairman said, there had been put into his hands a portion of the rib of a mammalia of the very highest order, which, it would be seen, was somewhat in the condition of a lead-mine. It had been handed to him as a puzzle, and as such he submitted it to the section. [The curiosity was here handed round, and evidently posed the *savans* in geological science.] "Do you give it up?" asked Dr. Buckland. "Then I'll tell you what it is: it is a bone not found in, but upon, the red sandstone; and in Bristol too. If it had been found fifty years hence resting upon red sandstone, it would have been produced as belonging to that deposit; and yet, gentlemen, after all, I must tell you that it is a bone of one of the unfortunate beings who perished at the Custom-house, at the riots in this city; the animal matter has been roasted out of it by intense heat, and the cavities have been filled by melted lead." (Hear, hear.) The learned doctor then alluded to the bones found in Axminster, and other churches, filled with lead, which had been supposed to have been purposely introduced for the purpose of preservation, though it was to him an unintelligible process. The specimen before the section would probably solve the problem that had occupied the attention of antiquarians, and it may turn out that the older church, or a portion of it, had been destroyed by fire, and that lead from the roof or spouts had fallen into the graves and introduced itself into the bones deposited in them. It was certainly a very curious relic, deserving preservation.

Let us here interpose, by anticipation, something of public utility.

For ascertaining the Strength of Spirits.— One of the most practically useful papers we heard was one read at the Chemical section, on the 26th, by Mr. Black, whose excellent "Treatise on the Art of Brewing" received ample commendation at our hands in a review. As it is of general interest, we have taken pains to report it as read.

I believe it has for long been a desideratum with government to find a more scientific and accurate mode of ascertaining the strength of spirits than that now in use. A very slight inattention in the method of using the hydrometer may make a difference of at least five per cent, and when the spirits are adulterated with sugar or salts, that instrument is totally useless. It is a well known fact that when equal quantities of proof spirits and water are mixed together at a temperature of between 50° and 60° (Fahrenheit), the thermometer, if immediately immersed in the mixture, will rise 9½ degrees. I do not, however, think it is so generally known that the thermometer rises more or less, according to the strength of the spirits, and that it does so apparently in very regular progression, when the spirits are between the strengths of 45 per cent over and 45 per cent under proof.

When spirits, 45 per cent over proof, are mixed in equal quantities with water, both being of the same temperature, *i. e.* between 50° and 60°, the thermometer, if immediately immersed in the mixture, will rise 14° degrees; but with the strongest alcohol, also mixed with an equal quantity of water, it will not rise above that temperature; no further concentration therefore takes place unless more water be added, shewing, I should think, that alcohol can only combine with water in atomic proportions, and that a certain portion of that spirit must remain in the first mixture in an uncombined state.

Every degree on the thermometer appears to indicate a difference in the strength of the spirits of about 10 per cent; thus if we mix equal quantities of spirit, 10 per cent over proof, and water, both at equal temperatures of about 55°, the thermometer will rise 10¼°; with spirit 20° over proof, mixed as above, it will rise 11¼°; and so on—one degree for every 10 per cent over proof, until it reaches about from 40 to 45 over proof, when no further increase is apparent unless, as I have before stated, more water be added.

The thermometer seems to act in a similar manner with spirits under proof; thus, with spirits ten per cent under proof, mixed with water as above, it will rise about 8½°, and one degree less for every 10 per cent under proof, until we get to 45° under proof; after which, although a rise does take place, the indications do not seem to be so regular.

When the spirits are mixed with sugar increasing the specific gravity so as to falsify the hydrometer 20 or 30 per cent or more, the indications of the thermometer are precisely the same, making allowance for the slight difference in volume caused by the mixture of sugar.

If the mixtures be made at higher temperatures, the indications of the thermometer are proportionally a lesser number of degrees, according to the temperature; I think when between 70° and 80° nearly 2 degrees less, but the progressions appear to go on regularly as before.

I do not, however, presume to give the above as accurate results, but merely to state that the thermometer appears to indicate a regular progression according to the strength of the spirits, and the temperatures at which they may be mixed with the water.

My only desire at present is to draw the attention of men of science to the subject, who may discover some mode of application which may render it available, and perhaps accurate, in ascertaining the qualities of spirits or acids.

The Theatre on Wednesday night was somewhat better arranged, as far as entrance went, but the stage performances were rather inferior. The Marquess of Northampton being unavoidably absent, Mr. Conybeare took the chair, and, quite forgetful of the main objects of the meeting, instead of calling for the Sectional Reports, persuaded Dr. Daubeny to deliver a lecture on hot and mineral waters, which was followed by a debate far from being honourable to the philosophy or science congregated at Bristol. The Reports were subsequently read, and kept a portion of the auditors (the rest having retired tired) till about half past twelve o'clock. The complimentary system, as usual, prevailed; and, indeed, we may say, that, with the exception of reading a letter from Dr. Herschel to Sir W. Hamilton, giving a fine description of the double stars and nebulæ he had observed at the Cape of Good Hope, there was very little done, any evening, on the stage which deserved approbation. With regard to the Reports themselves, we think it would be preferable to have them read by the Secretaries rather than the Presidents of the several Sections. It seems to be a part of their official duty; and would not have so much the look of personal display, such as is insisted upon by the leading actors of the dramatic profession, actually on the stage, and ever anxious to be before the public in principal characters.

The breaking of the iron rod over the Avon created a strong sensation; and Mr. Brunel approved himself worthy of his parentage, by the skill and exertion with which he fished it up, and replaced it in time for the ceremony of Saturday morning. Anticipating events, we may notice that this was a splendid sight. The rocky ridges on both sides of the river were crowned with animated human life, and the effect amid such scenery can hardly be ima-

gined, far less described. The water, alone, wanted some animation, for there was hardly a boat upon it, and an occasional steamer passing up or down hardly redeemed it from stagnation. Four small balloons, sent up from below the crag on the Leigh side, seemed to interest the multitude more than any thing else; and, in truth, it was pretty to see them float along over the uplifted gaze of these tens of thousands, on so beautiful a spot. At the conclusion, the rivulet, not the tide, of human existence winding down the serpentine path on the Clifton side was a curious spectacle; and, fortunately, the whole went off without the slightest accident. The ensuing breakfast at the Gloucester Hotel, given by the Trustees of the Suspension Bridge, and the only public entertainment offered to the Association, where about three hundred persons sat down to an elegant entertainment, also went off with great eclat, and proved that, if due pains had been taken beforehand, and a right place selected, the social enjoyments of the meeting, instead of being marred, might have contributed essentially to the comfort and success of the occasion. The Marquess of Northampton, Messrs. Brunel, senior and junior, the partner of Mr. Miles, member for Bristol, Mr. Hare, and others, addressed the assembly; and the cheering was not the less loud because tea, and not wine, was circulating at the tables. The reception of the elder Brunel, who arrived during the repast, must have been particularly grateful to his feelings.

On the evening of this day, Messrs. Laxton and Tait, two young engineers, we believe, employed on the bridge, got into a basket-car and were drawn across the rod. Some obstacle occurred about midway, and the rope by which they were being pulled across, was obliged to be loosened; and this at a time when the Benledi steamer was passing below. Her mast caught the line, and had it not been cut with great presence of mind, in all probability a fatal catastrophe would have attended this adventurous attempt. As it was, the oscillation of the rod with the suspended car was appalling, and the terror of the spectators was scarcely appeased when they saw the parties drawn back in safety to the shore.

On Thursday, varieties were supplied by the promenade to Mr. Miller's grounds, for an hour or two in the evening; and at two o'clock, by a lecture on the philosophy of education, delivered at the Assembly Rooms by Mr. James Simpson, advocate, of Edinburgh. It was attended by a genteel audience of both sexes, and elicited very warm admiration. Mr. Simpson's views are just and rational, and he is eminently happy in the illustration of his principles. Anecdotes of Sir Walter Scott, and frequent playful and entertaining allusions, rendered his arguments as popular as they were clear, and well-calculated to promote the best interests of society.

Friday was, besides sectional meetings, a perfect conflict of expeditions, no fewer than three being strangely appointed for the same time. Botany, we are told, was a very pleasing and useful excursion. The engineers went to the Western Railroad works, at Hanham, in small boats, and did not come off so well, owing to some confusion, some rain, some missing of parties and appointments, and other casualties. The geologists sailed in a steamer, under the command of Mr. Conybeare, who explained to them every stratification and formation of the coast as they passed along. One of the Bristol newspaper's accounts of this affair may serve as a sample of the manner in which the local press is apt to misrepresent such matters. It runs as follows:—

"*Excursion to Portshead.*—The party of philosophers, who had entered their names for this excursion, embarked at seven o'clock this morning in the Killarney steamer, which the proprietors had liberally placed at their disposal. Shortly after they were on board, the Rev. W. Conybeare commenced a long and elaborate lecture upon the stratification of rocks, which lasted until their arrival at Hungroad, where they found a member of Mr. Bright's family awaiting them, with an invitation to an elegant breakfast at his hospitable mansion at Ham Green. The party here divided, and those who partook of Mr. Bright's attentions were amply gratified by the inspection of his fine botanical, mineralogical collections, and other subjects in natural history. They also inspected the tide gauge constructed in his grounds; and being informed that Mr. Miles's splendid gallery of pictures, at Leigh Court, would be thrown open to members of the Association, the party, after breakfast, proceeded thither, where also a splendid *déjeûner à la fourchette* awaited them. The other section continued their voyage round the Holms, where the hammer and the chisel found ample employment for the geologists, and discussions took place between the various professors of that science. It was seven o'clock before the Killarney returned to the basin."

Such is the newspaper version of the affair; the truth of which is simply, that Mr. Conybeare did lecture the whole day: a small party, too late for the steamer, and a few persons from the vessel, had the good fortune to be entertained, at Ham Green, in a manner which contrasted in every way with the common course of their Bristol experience. Refined and well-informed, the inmates of Mr. Bright's mansion presented, indeed, together with the mansion itself and all its adjuncts, including the interesting ancient butler, a genuine picture of what an English gentleman's dwelling ought to be, and what cannot be seen any where but in old England. It was a great relief from the rest of the week; and a treat which we consider ourselves very fortunate in having accidentally enjoyed. The tide guage is a very curious water clock, which the venerable and respected owner of Ham Green, in his 82d year, took the trouble to explain to his visitors, on a diagram and proof of its mode of acting, before they took leave of him to inspect it.

At Mr. Miles', the view of his superb grounds and splendid gallery was highly gratifying; and a cold lunch, with a bottle of good wine (not a splendid *déjeûner*, nor any thing like it) was placed in the last room for such as chose to take refreshment. The only drawback to this liberality was one, we are sorry to say, rather peculiar to England, in a less agreeable and commendable sense than what we have just noticed—we mean the allowance of vails to be given to servants. The principle is bad: it looks like paying for an exhibition; and we are sure it was only from want of thought that it was not forbidden in this instance. We offer the remark in the spirit of general observation, and not as individual censure; and it is but justice to say, that a guide, more deserving of an acknowledgment, both by intelligence and civility, could not be found than the servitor who officiated at Leigh Court.

The story of the hammer and chisel finding ample employment for the geologists at the Holms, it should be understood, is altogether apocryphal, in consequence of none of them having landed!!

At the theatre, in the evening, the noble president, having returned and resumed his station, gently reproved the departure from the usual routine of proceeding on the preceding Wednesday; and the sectional reports were read. Dr. Buckland then delivered an amusing lecture on fossil remains of animals in England; described birds much bigger than mammoths, that had left their foot-marks on the sands thou-*sands*-of years ago; and by gesticulating the march of the cocks and hens of that remote era, caused much laughter among the spectators.

The suspension-bridge transactions of Saturday we have already anticipated. They were the most popular of the exhibitions, which attracted or afforded opportunity for the mass of the people to make a holiday. And so the morning saw, as usual, the young hurrying to the sight—for youth is always in the hurry in which old age should be, if either measured time by a proper standard in relation to their stake in the commodity; though, after all, that of both is but the value of a moment—and by noon the common business of traffic and life had restored Bristol to its olden aspects. At this hour the general committee assembled to finish the proceedings of the year, and prepare for the next. As these are published in the journals, in the same manner as other transactions, we use the same freedom in reporting them.

After the routine of lesser matters had been gone through, the votes of money for the prosecution of scientific inquiries during the ensuing year were proposed and carried. The Committee of Recommendations, which last year recommended the grant of 1760*l.*, found itself this year enabled, by the flourishing state of the funds, besides purchasing 1000*l.* 3 per cents, to recommend the outlay of 2710*l.* for similar purposes. By way of comparison we insert the precedent of 1835:—

	£
Reduction of Observations of Stars	500
Discussion of Tides	250
Constant of Lunar Nutation	100
Meteorological Instruments	100
Observations of the Temperature of the Earth	100
Comparative Level of Land and Sea	100
Fossil Ichthyology	105
Lens of Rock-salt	80
Hourly Temperature	55
Specific Gravity of Gases	50
Absorbents and Veins	50
Sounds of the Heart	50
Duty of Steam-engines	50
Electric Light	30
Equations	30
Strength of Iron	30
Experiments on long-continued Heat	25
Chemical Constants	20
Refraction	15
Tide Transcripts	10
Rain-gauge Experiments	10
	1760

This year 250*l.* was again voted for the discussion of tides, to be at the disposal of Mr. Lubbock; and 150*l.* for the same at Bristol, under the direction of Mr. Whewell. To follow up the constants of lunar nutation, 70*l.*; hourly observations on the barometer, 30*l.*; meteorological observations on subterranean temperature, on a regular plan, 100*l.*; comparative level of land and sea, 500*l.*; experimental observations on the forms of waves, 100*l.*, confided to Messrs. Robertson and Russell; for reduction of observations in the Histoire Celeste, 1789 to 1790, 500*l.*; experiments on vitrification, 150*l.*: on rock-salt lens, under the direction of Sir D. Brewster, 80*l.* It was suggested to add 50*l.* to Mr. West, who has conducted some admirable experiments on this point; but objected to on the ground that it had not emanated from the committee, and passed over.

All these grants flowed from the mathematical section, and amounted to a very disproportionate part of the entire vote, viz. to no less than 1930*l.*

For promoting chemical science were granted —50*l.* for experiments on the gravity of gases; 30*l.* for the same on heat in combustion; 15*l.* for comparisons of atmospheric air; 24*l.* 13*s.* for Mr. Johnston's continued chemical constants, portion of the last year's vote being, as we understood, still unexpended; and 60*l.* for a purpose which we did not gather.

In the Geological Section, 20*l.* was voted for experiments to ascertain the quantity of mud held in solution in rivers; 30*l.* for researches on subterranean temperature and electricity; 50*l.* for peat-mosses in Ireland, to be directed by Mr. Colby; 35*l.* for experiments on plants under glass, and excluded from air, on Mr. Maunde's principles, and conducted by Professor Henslow; 50*l.* for Dublin and Edinburgh committees on motions and sounds of the heart, &c.

25*l.* was voted for experiments on the effects of cold on land animals; and other small grants for the pathology of the spinal marrow, &c. &c.

In Statistics, 150*l.* for the actual state of schools throughout England, with reference simply to their numbers.

In Mechanics, 50*l.* for steam-engines.

Considerable discussion took place when the foregoing votes were carried; from which it appeared, that the *imperium in imperio* which rules the Association was resolved that no measure should be listened to which did not emanate from its own authority. It is evident that there is no time sufficiently to consider new propositions in such a mixed meeting as the General Committee, within the few hours allotted for its deliberations on the last day of the week; but if it wishes to be, as it pretends it is, the ruling body with absolute power, it will take measures to emancipate itself from such dictation as was manifested on this occasion. "I am Sir Oracle, let no dog bark!" was never more completely enacted; and the poor gentlemen who ventured to offer a suggestion unapproved by the managers, were most unceremoniously snubbed and set down — to listen to their superiors, no doubt wiser and better men. And yet, all knowledge does not reside in any individual, eminent though he may be; and wiser men and greater philosophers than the foremost there, have acknowledged that they might learn something useful even from common people.

The attempts of the Statistical Section to be stirring in novel matters were quashed; and we agree with those who think it is especially necessary to guard against this branch falling into political speculation.

After the actual grants were disposed of, some desiderata of science were thrown out for the co-operation of scientific inquirers. Capt. Sabine, it was resolved, should be requested to continue his report on the magnetism of the earth: also, on the magnetic dip and intensity in Scotland — an inquiry now in progress; Mr. Lubbock's astronomical observations; Mr. Johnston on amorphous bodies; Mr. J. Taylor on mineral and metallic deposits; Mr. Yarrell on ichthyology; Mr. W. Taylor on works for directing the instruction of the blind; to apply to the French government for its tide observations,—M. Dupin assured the meeting that these should be forthcoming;—experiments on the effect of heat on rocks; experiments on the fusion of iron, by hot and cold blasts, in furnaces; means for improving the safety lamp; chemists to investigate the gases in the atmosphere; a notice of plants in strata, earlier than the coal formation; an account of the drummer fish, which makes a loud noise on the bottom of vessels, found near California.

These desiderata are, no doubt, interesting, and it seems to be a pity that the very late publication of the Transactions of the Association prevents their being generally known in time to procure the attention and assistance of the mass of scientific and intelligent men scattered over the kingdom. The last year's volume reached Bristol during the meeting; consequently, it was impossible, as far as it could produce fruits, that any of the objects on which it sought for co-operation, could be answered. A very little diligence on the part of those who furnish its contents, would double the obligations of science to them, and tend greatly to its advancement; but, on this being respectfully suggested in the committee, the dictatorial party to which we have alluded, quashed the observation as irrelevant; and the desiderata were again left, but for the periodical press, to the darkness of the MS. archives of these proceedings.

After further discussion, and a strong fight between Liverpool and Manchester, for the priority, it was resolved, that the next year's meeting should be at Liverpool. The other candidate places were Newcastle, Birmingham, Leeds, and Worcester. It was also resolved, that it should take place in September, to suit the geologists. The Earl of Burlington, on the motion of Mr. Murchison was elected president; Mr. Dalton and Sir P. Egerton, vice-presidents; Dr. Henry and Mr. Parker, secretaries. Thus the honours were pretty equally divided between the rivals, Liverpool and Manchester. Mr. Stanley was also nominated to an office, we believe vice-president, but we could not hear distinctly; and the meeting adjourned.*

Reserving our remarks on the theatrical finale at night, and other matters connected with the tone and acts of this annual meeting, we shall also conclude for the present; merely observing of the former, that it was a melancholy spectacle of moral and intellectual prostitution, mingled with ebullitions of vanity and egotism never surpassed. The mercantile wags of Bristol declared that butter had risen threepence per pound, in consequence of the great waste on these occasions; and, assuredly, it was awfully dispensed by the orators, in lauding the vast liberality and hospitality which had been showered upon the stranger members. Honest Horace was right when he described the adulation paid to *Wealth;* and, when we looked at the *savans* of this city who had joined the band for the nonce, we could not help asking with him, if money could make men every thing great and estimable, and finding the answer in the echo of the playhouse, from the speeches on the stage:

> Omnis enim res,
> Virtus, fama, decus, divina humanaque pulchris
> Divitiis parent; quas qui construxerit, ille
> Clarus erit, fortis, justus, *sapiens etiam*, et rex,
> Et *quicquid volet!!!*

REVIEW OF NEW BOOKS.

Mr. Midshipman Easy. By the Author of "Peter Simple," "Jacob Faithful," &c. 3 vols. 12mo. London, 1836. Saunders and Otley.

Captain Marryat's novels have a great many merits. They take a new ground, or rather a novel course; they are intersected by a vein of capital, plain, rational sense, and they have some admirable points, both of humour and of pathos. But they have one merit peculiarly their own, namely, their good spirits. And good spirits in a book, like good spirits in a friend, is a most companionable quality—they carry you along with them; they are contagious, you forgive a thousand faults for their sake; they are a sort of moral sunshine, which lends its own brightness to all around. Now, Captain Marryat's volumes are all written in good spirits. His heroes get into and out of scrapes, just as we see some people do in real life: for, we believe, now and then an individual is born to shew that there is such a thing as luck left in the world. The hero of these volumes is one of this fortunate class. He has been brought up, like many other only sons, with a thousand and one wrong notions; most of which he is fortunate enough to have knocked on the head by a little useful experience, before they become thorough-going prejudices. Equality, argument, and craniology, are the father's "three black graces:" a fancy for two of them is duly impressed on the son, and the progress of equality and argument on board a man-of-war, is very amusingly narrated. But so many people have children to christen, that we cannot select a chapter of more general interest than the conversation between Mr. and Mrs. Easy respecting the name of their first-born; not, perhaps, without having Mr. and Mrs. Shandy in the writer's eye.

"It was the fourth day after Mrs. Easy's confinement that Mr. Easy, who was sitting by her bed-side in an easy chair, commenced as follows: 'I have been thinking, my dear Mrs. Easy, about the name I shall give this child.' 'Name, Mr. Easy! why, what name should you give it but your own?' 'Not so, my dear,' replied Mr. Easy; 'they call all names proper names, but I think that mine is not. It is the very worst name in the calendar.' 'Why, what's the matter with it, Mr. Easy?' 'The matter affects me as well as the boy. Nicodemus is a long name to write at full length, and Nick is vulgar. Besides, as there will be two Nicks, they will naturally call my boy young Nick, and of course I shall be styled old Nick, which will be diabolical.' 'Well, Mr. Easy, at all events then let me choose the name.' 'That you shall, my dear; and it was with this view that I have mentioned the subject so early.' 'I think, Mr. Easy, I will call the boy after my poor father — his name shall be Robert.' 'Very well, my dear, if you wish it, it shall be Robert. You shall have your own way. But I think, my dear, upon a little consideration, you will acknowledge that there is a decided objection.' 'An objection, Mr. Easy?' 'Yes, my dear; Robert may be very well, but you must reflect upon the consequences; he is certain to be called Bob.' 'Well, my dear, and suppose they do call him Bob?' 'I cannot bear even the supposition, my dear. You forget the county in which we are residing, the downs covered with sheep.' 'Why, Mr. Easy, what can sheep have to do with a Christian name?' 'There it is; women never look to consequences. My dear, they have a great deal to do with the name of Bob. I will appeal to any farmer in the county, if ninety-nine shepherds' dogs out of one hundred are not called Bob. Now, observe, your child is out of doors somewhere in the fields or plantations; you want, and you call him. Instead of your child, what do you find? Why, a dozen curs at least, who come running up to

* At the close, we were informed that 818 members, from distant parts, were enrolled, and 568 inhabitants of Bristol: total, 1386.

you, all answering to the name of Bob, and wagging their stumps of tails. You see, Mrs. Easy, it is a dilemma not to be got over. You level your only son to the brute creation by giving him a Christian name which, from its peculiar brevity, has been monopolised by all the dogs in the county. Any other name you please, my dear, but in this one instance you must allow me to lay my positive veto.' 'Well, then, let me see—but I'll think of it, Mr. Easy; my head aches very much just now.' 'I will think for you, my dear. What do you say to John?' 'Oh, no, Mr. Easy; such a common name!' 'A proof of its popularity, my dear. It is scriptural—we have the Apostle and the Baptist—we have a dozen popes who were all Johns. It is royal—we have plenty of kings who were Johns—and moreover, it is short, and sounds honest and manly.' 'Yes, very true, my dear; but they will call him Jack.' 'Well, we have had several celebrated characters who were Jacks. There was—let me see—Jack the Giant Killer, and Jack of the Bean Stalk—and Jack—Jack—' 'Jack Sprat,' replied Mrs. Easy. 'And Jack Cade, Mrs. Easy, the great rebel—and Three-fingered Jack, Mrs. Easy, the celebrated negro—and, above all, Jack Falstaff, ma'am, Jack Falstaff,—honest Jack Falstaff,—witty Jack Falstaff'—'I thought, Mr. Easy, that I was to be permitted to choose the name.' 'Well,' so you shall, my dear; I give it up to you. Do just as you please; but, depend upon it that John is the right name. Is it not now, my dear?' 'It's the way you always treat me, Mr. Easy; you say that you give it up, and that I shall have my own way, but I never do have it. I am sure that the child will be christened John.' 'Nay, my dear, it shall be just what you please. Now I recollect it, there were several Greek emperors who were Johns; but decide for yourself, my dear.' 'No, no,' replied Mrs. Easy, who was ill, and unable to contend any longer, 'I give it up, Mr. Easy. I know how it will be, as it always is; you give me my own way as people give pieces of gold to children—it's their own money, but they must not spend it. Pray, call him John.' 'There, my dear, did not I tell you, you would be of my opinion upon reflection? I knew you would. I have given you your own way, and you tell me to call him John; so now we're both of the same mind, and that point is settled.' 'I should like to go to sleep, Mr. Easy; I feel far from well.' 'You shall always do just as you like, my dear,' replied the husband, 'and have your own way in every thing. It is the greatest pleasure I have when I yield to your wishes. I will walk in the garden. Good-bye, my dear.' Mrs. Easy made no reply, and the philosopher quitted the room. As may easily be imagined, on the following day the boy was christened John."

We add to this our philosopher's first experience at the mast-head. We must observe that he has purchased a copy of the articles of war for an old tooth brush, which he devotes his leisure moments to studying.

"'What are you doing here, sir?' cried Mr. Smallsole to our hero. 'Nothing at all, sir,' replied Jack. 'Then I'll give you something to do, sir.—Go up to the mast-head, and wait there till I call you down. Come, sir, I'll shew you the way,' continued the master, walking aft. Jack followed till they were on the quarter-deck. 'Now, sir, up to the main-top-gallant mast-head; perch yourself upon the cross-trees—up with you.' 'What am I to go up there for, sir?' inquired Jack. 'For punishment, sir,' replied the master. 'What have I done, sir?' 'No reply, sir—up with you.' 'If you please, sir,' replied Jack, 'I should wish to argue this point a little.' 'Argue the point,' roared Mr. Smallsole—'By Jove, I'll teach you to argue the point—away with you, sir.' 'If you please, sir,' continued Jack, 'the captain told me that the articles of war were the rules and regulations by which every one in the service was to be guided. Now, sir,' said Jack, 'I have read them over till I know them by heart, and there is not one word of mast-heading in the whole of them.' Here Jack took the articles out of his pocket and unfolded them. 'Will you go to the mast-head, sir, or will you not?' said Mr. Smallsole. 'Will you shew me the mast-head in the articles of war, sir,' replied Jack; 'here they are.' 'I tell you sir, to go to the mast-head; if not, I'll be d—d if I don't hoist you up in a bread-bag.' 'There's nothing about bread-bags in the articles of war,' replied Jack; 'but I'll tell you what there is, sir;' and Jack commenced reading, 'all flag-officers and all persons in or belonging to his majesty's ships or vessels of war, being guilty of profane oaths, execrations, drunkenness, uncleanness, or other scandalous actions in derogation of God's honour, and corruption of good manners, shall incur such punishment as'—'Damnation,' cried the master, who was mad with rage, hearing that the whole ship's company were laughing. 'No, sir, not damnation,' replied Jack, 'that's when he's tried above; but according to the nature and degree of the offence.' 'Will you go to the mast-head, sir, or will you not?' 'If you please,' replied Jack, 'I'd rather not.' 'Then, sir, consider yourself under an arrest. I'll try you by a court-martial, by G—d! Go down below, sir.' 'With the greatest pleasure, sir,' replied Jack, 'that's all right, and according to the articles of war, which are to guide us all.' Jack folded up his articles of war, put them into his pocket, and went down into the berth."

The captain quietly explains the matter to the juvenile theorist, and ends by requiring obedience.

"'Certainly, sir,' replied Jack, 'now that I am aware of your wishes.' 'You will oblige me, Mr. Easy, by going on the quarter-deck, and wait there till I come up.' Jack made his best bow, and exit. 'Old Joliffe told me that I should have to go,' said Jack to himself, 'and he was right so far; but, hang me if I hadn't the best of the argument, and that's all I care about.' Captain Wilson sent for the master, and reprimanded him for his oppression, as it was evident that there was no ground for punishment, and he forbade him ever to mast-head another midshipman, but to report his conduct to the first-lieutenant or himself. He then proceeded to the quarter-deck, and, calling for Mr. Easy, gave him what appeared to be a very severe reprimand, which Jack looked upon very quietly, because it was all zeal on the captain's part to give it, and all zeal on his own to take it. Our hero was then ordered up to the mast-head. Jack took off his hat, and took three or four steps, in obedience to the order—and then returned and made his best bow—inquired of Captain Wilson whether he wished him to go to the fore or to the main-mast head. 'To the main, Mr Easy,' replied the captain, biting his lips. Jack ascended three spokes of the Jacob's ladder, when he again stopped, and took off his hat. 'I beg your pardon, Captain Wilson—you have not informed me whether it is your wish that I should go the top-mast, or the top-gallant cross-trees,' 'To the top-gallant cross-trees, Mr. Easy,' replied the captain. Jack ascended, taking it very easy: he stopped at the main-top for breath; at the main-top mast-head, to look about him; and, at last, gained the spot agreed upon, where he seated himself, and, taking out the articles of war, commenced them again, to ascertain whether he could not have strengthened his arguments."

The last volume is somewhat lengthy, but Jack's return home is a spirited scene, and we leave *Mr. Midshipman Easy* in the full conviction that he will make his way with the public.

Laing's Journal of a Residence in Norway.

(Second notice.)

We had some thoughts of classifying our extracts, but, on reviewing them, we trust they may be made as acceptable to our readers and as fair towards the author, by following him in the order of his pages. Our ancient architecture receives a light from the observations on the grand church of Drontheim, built by Olaf Haraldsen, in the beginning of the 11th century:—

"There has (says Mr. L., after describing it) been a good deal of ingenious writing about the origin of Gothic arches. The interlacing of the boughs of tall trees in an avenue, as it has something of the effect, has also been considered as the original model of the interior of the Gothic cathedral, and what the earliest architects may have proposed to imitate. The origin is probably much less picturesque. The people of the north of Europe, before their conversion to Christianity, buried their dead, like all barbarous nations, with their arms and implements, and even their horses, slaves, and sometimes their wives. On the sea coast, the boat or ship in which the chieftain sailed, was laid over the body, and the tumulus was raised over its hull. This circumstance repeatedly occurs in the Saga; and the ship tumulus is distinguished by all Scandinavian antiquaries as distinct from the round heaps or mounds of earth raised over stone coffins or other receptacles. Its inside would be exactly a Gothic building in wood; and the main body, the nave (navis) is called the ship of the building in the ancient northern languages, probably in reference to this origin."

From the ancient church we come to the modern press—its rival in power. The author *loquitur*:—

"The state of the periodical press in a country gives a true measure of the social condition of the people, of their intelligence, their ripeness for constitutional privileges, and even of their domestic comforts. The newspapers, since I came here, have been my principal and most instructive reading. In Norway there are upwards of twenty; but some only give the advertisements and official notices of the province or town in which they appear: even these are not without interest to a stranger. It is curious to see what is to be sold or bought, and all the various transactions announced in an advertising newspaper. Of those which give also the foreign and domestic news, the most extensive circulation appears enjoyed by a daily paper called the *Morges Blad*, published in Christiania. The cost of a daily paper sent by post is seven dollars, or about 28*s.* sterling yearly. There is no duty on newspapers; and, as there are six or seven published in Christiania alone, this price is probably as low as competition can make it. In paper and type, this journal is superior to any French or German one that I have seen; and its articles of foreign news, and its

editorial paragraphs, are often written with great ability. From the importance attached in all these newspapers to little local affairs, it is evident that the mass of the people, not merely an educated few, are the consumers. There being no tax on advertisements, the most trifling matter is announced, and a publisher appears to have a kind of brokerage trade at his counting-house, and to be empowered to sell or buy for parties, or, at least, to bring buyers and sellers together. I have seen it advertised, with a reference to the editor's counting-house, that there was a turkey-cock to be sold, a cow in calf wanted, and such trifles as shew, that the class to whom they are no trifles, read and have the benefit of newspapers."

As matters are now shaping their course, this is exactly what we expect to come to; and as every thing taken up in England goes a great deal further than its prototypes, we beg thus timeously to announce that we (the *Literary Gazette*) intend hiring large premises in town, with a farm and all conveniences at a short distance in the country, where we shall be happy to execute all similar commissions for our friends, sell their turkey or other cocks, manage their cows (and if Irish, bulls), shew up their calves to the best bidder, and, in fact, far exceed any half-starved Norwegian editor in the multiplicity, extent, intricacy, delicacy, and despatch of every business with which we may have the honour to be intrusted. Let George Robins beware!

On the drama, we have some good remarks:

"The Norwegians are fond of theatrical representations. They are in that state of mental culture in which the drama flourishes. In the modern state of society in Europe it has lost its importance; and the present generation, when reading the works of writers of the last age, can scarcely comprehend, how men of sense should then have treated it as an important national object, exercising an extensive influence on the morals and character of a people. This influence was, probably, always over-rated. In the days of Louis XIV. the court, and the city in which it resided, were considered, both in France and in other countries, to be the only intellectual part of the nation where the soul of the people was centered; and the interest excited there, was supposed to extend through the most remote ramifications of society. Yet it must, even at that period, have appeared a ridiculous assumption, that dramatic representations, witnessed, perhaps, by some ten or twelve hundred individuals frequenting the theatres in the capital, could have such vast influence on the morals or character of the nation. The truth seems to be, that such representations afford a kind of intellectual enjoyment to the uneducated, who, without it, would perhaps remain in a state of mental torpor; and therefore it was, in a certain stage of society, a valuable means of civilisation, or cultivating the public intellect, so far as it extended; not from the influence of any morality or wisdom inculcated by the drama, but because it furnished intellectual enjoyment at a period when there was no other. It withdrew at least a small portion of the people of a few towns, for a small portion of their time, from ordinary occupations, and mere physical enjoyment. In proportion to the diffusion of education, and of the means and pleasure of reading, the demand for the pleasure of scenic representation necessarily declined, and became confined to a smaller portion of the public; to that portion which can only follow written ideas with some difficulty, and without any amusement. Rare talent in an actor collects crowded audiences, even at the present day; but it is to witness the art of the representation, not the matter represented. The quantity and quality of the amusement furnished by our periodical publications and our novels at a vastly cheaper rate, account sufficiently for the decline in the demand for theatrical amusement. Excitement more intellectual, of longer endurance, and more easily accessible, may be had for a shilling, by a person of ordinary reading habits, in the shape of a periodical work, than he could obtain for five shillings in the best appointed theatre that ever existed. It is thus a proof of only a moderate advance in mental culture among a people, when their theatres are very flourishing."

As a converse, we may fancy, from the infamously low estate of our drama in London, that we are at the highest pinnacle of "mental culture"—Heaven bless the mark!

As we have just been altering and (?) amending our marriage laws, it may be interesting to call attention to the simple Norwegian practice, as set forth by our author:

"Among the secondary checks upon improvident marriages in this nation, the most powerful is that in the Lutheran church; marriage includes two distinct ceremonies, the betrothal, and the final ceremony. The one precedes the other generally for one, two, and, often, for several years. The betrothed parties have, in the eye of the law, a distinct and acknowledged status, as well as in society. It is to be regretted, that a custom, so beneficial to society, should have fallen into disuse in the English church. It interposes a seasonable pause, before young parties enter into the expenses of a family and house. It gives an opportunity of discovering any cause, such as drunken or idle habits, or poverty, which might make the marriage unsuitable; and, perhaps, as a sort of probationary period, it is not without its good effect on the character and temper of both sexes. If we reckon the prolific age of a female at twenty-two years, or from eighteen to forty, the interval of a year (and in the less opulent classes it is often several) alone reduces to the amount of between four and five per cent the increase of population."

The author continues:

"The betrothal of the parties long before actual celebration of the marriage, appears to have had its origin before the introduction of Christianity, from the custom of all the young men going out on piratical expeditions to distant countries. Its practical effect on society at the present day is similar to what is so beautifully described by Malthus in the chapter on the effects which would result to society from the prevalence of moral restraint. (See chap. 2. book iv. of 'Essay on the Principle of Population.') The female has, at an early age, her certain known and fixed station in married life, although that station may not be entered into for several years. Each party has rights in law over the other, which cannot be broken like a simple private engagement. In society each enjoys the consideration which the actual marriage would give. The suavity of manners towards each other in domestic intercourse, which I have so often remarked, may perhaps be caused by this often long state, not of courtship exactly, for there are no fears or doubts, but of desire to please and be agreeable to each other, which becomes habitual at last, and continues after the parties have passed over from this into the married state. But every good has its evil. Among the unmarried servants in husbandry, who are waiting for a house and land to settle in, as housemen, it too often happens that the privileged kindness between betrothed parties is carried too far, and the betrothed is a mother before she is a wife. But these are the exceptions. The general effect is undoubtedly good on the morals, manners, and numbers, relative to subsistence, of the community of Norway."

It is added in a note (and one of Mr. L.'s curious speculations on etymology), "it may be news to the sentimental reader to be informed that the English expressions 'true love,' and 'true lover,' are not derived from the sentiment or passion Love, or from the fidelity of the Lover; not from the Scandinavian synonym to Amor, but from the synonym to Lex. Our word love is derived from lov, law; and true from troe, to contract, plight; so that 'troloved,' or 'trolov,' meant originally contracted or pledged in law: and in old times a man might be a 'true lover' to his bond for ten pounds, as well as to his sweetheart."

Another derivation:

"A detached piece of meadow or arable land is called an Eng of the farm. Hence, probably, the name of England; which, whether applied to the original seat of the Anglo-Saxons in Selswick, or to their conquest in Britain, was descriptive of the kind of country, and its relative position to the countries around."

Resuming his subject of marriages, population, &c., we read with some surprise—

"These checks against excessive population, which society in every state seems to form, as it were, for itself, are attended in every state of society with nearly the same evil consequences. In London and Paris, the expense of a family, and the high standard of even the lowest mode of living, are a check upon improvident marriage; but with the evil of a greater proportion of illegitimate births. One-fourth, or between one-fourth and one-fifth, of the children born in these cities are illegitimate. In Norway, the same causes produce the same effects. The proportion of illegitimate to legitimate children is about one in five. In one parish, Sundal in Nordmor, it was, in the five years from 1826 to 1830, one in $3\frac{26}{38}$; and this proportion, though I have not here the means of verifying the conjecture, exceeds, probably, that, in the same period, of the most dissipated manufacturing parish in Manchester or London; yet it was in a country parish of 2400 inhabitants, without a town, or manufacturing establishment, or resort of shipping, or quartering of troops, or other obvious cause. What should be inferred from these facts? Simply, that the conventional restraints upon marriage happened to be in too strong operation during that period; that houses and assured subsistence, according to the habits of the country, for a family, happened to be as scarce as in any parish of London or Paris, and produced the same effects. The following were the proportions of houses and land to inhabitants in this parish in 1825. It will give some idea of the distribution of property:—Number of inhabitants, 2465; number of estates entered (matriculated) for seat or land-tax, 95; number of actual proprietors cultivating their own land, 121; number of tenants cultivating land, for rent, 47; number of housemen with land, 114."

But, it is consolatory to learn that

"The evils of illegitimacy are alleviated to the offspring by the state of the law in Norway. Children are not only rendered legiti-

mate by the subsequent marriage of the parents, as in the Scotch law; but the father may, previous to his contracting a marriage with any other party, declare, by a particular act, that his children are to be held legitimate. This is very generally done; and these children enter into all the rights of those born after marriage, and share in his property. I believe there are no instances of children being left to the miseries of illegitimacy, if the father has property."

Does not this, in some measure, account for the extent of illegitimacy?

(To be continued.)

Memorials of Mrs. Hemans. By H. F. Chorley. 2 vols. 12mo. London, 1836. Saunders and Otley.

Most of these letters have been before published in a contemporary; we have, therefore, little more to do than to announce their publication in a separate form, and say how glad we are of any memorials of the gifted writer. Mrs. Hemans's letters bear the impress of her poetry; grace, elegance, and feeling, are the characteristics. The only fault is incompleteness. Mr. Chorley has not the art of giving reality to his descriptions; they are vague, and leave no impression. Perhaps there is something of false delicacy in this; either such letters ought or ought not to be published; literary people may or may not have any claim upon the confidence, so essential to other friendships; but if such things are to be published at all, which we confess appears to us doubtful at least, the character on which they are meant to throw light should be graphic and complete. If treated as a philosophic study, there should be no blanks, no omissions, and no small affectations. If these letters of a most charming and clever woman were written with a view to publication, they are of no value as lights of character; if they were not, is it not as much as to say that genius cannot permit itself its friendships?

Adventures of Bilberry Thurland. 3 vols. Bentley.

At a late hour we have merely had time to dip into parts of these volumes, which appear to be comic and humorous sketches of low and common life; such as the daily world presents to us. The two or three we have read smack of the good old Smollet school; and, besides being "quite natural like," possess a sufficient fund of drollery to afford, as the country signs say, "entertainment for man and horse;" the country signs, by some strange oversight, always omitting to add the word "laugh" to complete the sentence.

MISCELLANEOUS.

The Juvenile Every-Day Book; with many Engravings, pp. 384. (London, Limbird)—This is a very pretty and useful little volume. It may truly be called a book for every day, for it would be impossible to open it without finding some matter of amusement or profit. There is all possible variety of selection, and made in excellent judgment. The woodcuts are very clever; there is a most amusing one—an assembly of penguins looking as solemn as if they meant to assume the ancient reputation of the owl. There are also three, representing water spouts, which give a just and striking idea of that impressive phenomenon. Altogether we most heartily commend the volume to our juvenile readers.

Dr. Lardner's Cyclopædia, LXXXII.; Biography; Lives of Eminent Foreign Statesmen, by G. P. R. James. Vol. III. (London, Longman and Co.)—We know of no writer more competent to give us memoirs of great foreign characters than Mr. James, whose long, ample, and studious reading of continental works has stored his mind with an accurate acquaintance with men, and things belonging thereto, which are only partially familiar to the mass of English readers, and intimately known but to a few. We have in this volume excellent biographies of the Cardinal de Retz, Colbert, John de Witt, and Le Tellier Marquis de Louvois; all connected with the important historical events in which they shone so prominently, and enriched with honest and instructive reflections, such as shed a fair and candid light upon the subjects under consideration.

ARTS AND SCIENCES.

ZOOLOGICAL SOCIETY.

Mr. Hardisty in the chair.—The usual monthly meeting was held on Thursday afternoon. Visitors to the gardens and museum during August, 41,195; balance in favour of the society 1662*l.* 2*s.* 2*d.*, exclusive of 1000*l.* invested in exchequer bills; a tender for building a giraffe house for 189*l.* to be finished by November next, has been accepted by the council. Many valuable donations were announced; amongst them was a four-horned ram, a very queer-looking fellow. The report then feelingly alluded to the severe loss which the society had sustained in the death of the late secretary, Mr. E. T. Bennett. To the efficiency of that gentleman's services in every department of the complicated and extensive business of the society must be attributed much of its present prosperity. His unceasing yet unwearied efforts to establish the success of the institution on a permanent basis was accompanied with a calm and unostentatious demeanour, the true characteristics of a sincere zeal. The developement of the scientific character of the society was ever an object of especial interest to Mr. Bennett, in reference to which he fully appreciated the importance of carrying into effect one of its earliest objects,—that of forming a zoological library; a valuable nucleus of which, comprising books on zoological science, selected with good taste, sound judgment, and extensive knowledge, was presented by the deceased. A resolution expressive of the high regard the society entertains for the memory of Mr. Bennett was passed unanimously, and ordered to be entered on the journals. Mr. Yarrell has kindly consented to officiate as secretary *pro tem.*

FINE ARTS.

The History and Antiquities of The Vicars' Close, Wells, Somersetshire; forming Part I. of "Pugin's Examples of Gothic Architecture," Third Series; accompanied by Historical and Descriptive Accounts. By Thomas Larkins Walker, Architect. Folio, pp. 28. London, 1836. T. L. Walker.

It appears from the Preface to this interesting publication, that after the death of the late Mr. Augustus Pugin, Mr. Walker (his pupil and one of his executors) purchased of his son, Mr. A. W. Pugin, sketches and admeasurements, which the latter had taken, of the Vicars' Close, at Wells, but for which room could not be found in the "Second Series of the Examples of Gothic Architecture." From these sketches (twenty-six in number) drawings were made by Mr. Walker and Mr. Wollaston, a late pupil of his; which drawings were engraved by Mr. Bury; and form the beautiful and valuable illustrations of the present volume.

Mr. Walker's historical account of the Vicars' Close is replete with antiquarian lore. It commences with the first ordination by Bishop Joceline de Welles, or Trotman, in 1237, of the chantry priests attached to the cathedral church of St. Andrew at Wells, and whom he styled vicars choral; intending they should supply the places of the canons in chanting and performing divine service. Mr. Walker then describes the donations and endowments which the body received from Walter de Hulle, sub-dean of Wells, in 1334, and Radulphus de Salopia, consecrated bishop of Wells in 1329. The latter erected a new college for their residence, some of the remains of which still exist. Bishop Beckington, who succeeded to the see of Bath and Wells in 1443, and who is by several writers erroneously called the founder of the "Vicars' Close," made great additions to it; and, at his death, left a sum of money, *in pios usus*, which his executors conscientiously applied to the purpose of rendering it the most beautiful edifice of the kind in England. At the Reformation, this establishment did not share the fate of other religious houses: on the contrary, Elizabeth granted it a charter of incorporation. There does not seem to have been any subsequent benefaction to the body, or addition to the building.

In concluding the history of this unique and interesting college, says Mr. Walker, "it were to be wished that a more agreeable task were allotted to the author, than a faithful description of the manner in which the whole Close has been maintained in repair since that period. It would naturally enough be supposed, after so munificent a gift by the founder, and so many valuable additions to the temporalities and comforts of the inhabitants by subsequent benefactors, that a true spirit of gratitude would have been manifested among the successors of those immediately receiving so sumptuous an asylum with many other benefits, and that their first care would have been to retain, as much as possible, the pristine beauty of the several buildings composing their college. But, alas! how lamentably the reverse of this has been the case! for no one, who was not intimately acquainted with the peculiarities of the various styles of Gothic architecture, and able to discover from the present ruinous condition of the exquisitely carved work what it originally has been, would persuade himself that these were faithful representations of the Vicars' Close. The chapel he would find in disuse, and filled with lumber; the ceiling of the hall hanging down in large patches; the rooms under, converted into a malting house; the houses modernised with common sash windows, bastard Italian doors, and plain parapets; and a common shop front within a few short weeks inserted under the beautiful little oriel window, at the very entrance to the Close from the street; and this by one of their own body, as if in positive defiance ff the advocates of good taste, and a proper feeling of reverence. The elegant pinnacles and panelled parapet of the gallery over the chain-gate, are so completely decayed and ruinous, that the loose stones threaten danger to the passers by, and the profiles of the mouldings are hardly discernible. On a visit to Wells, in May last, the author could not but congratulate himself, that his lamented friend, Mr. Pugin, had so opportunely snatched, as it were, the beauties of this example of Gothic art from utter oblivion, and that he should have been the means of thus handing them down to posterity. He knows it will be advanced by the participators in this reckless spoliation, that in catholic times, when celibacy was enjoined, their predecessors, not having to provide for families, could better afford repairs; but when some of the founder's statutes and injunctions are acknowledged, all should be equally in force, and one of them provides for the repairs of each house by its respective inhabitant vicar. It is under the head of 'The Office and Power of the Principals,' and runs thus: 'Moreover, they shall yearly see and oversee the defaults of every man's house situate within the said Close, and shall judge and esteem the reparation thereof, and shall admonish the said vicars, that, within a certain time by them

appointed, they shall sufficiently repair and amend all such faults in and upon their houses under certain pains, to be moderated by the arbitrement of the said principals.' The original number of thirteen was augmented greatly before Beckington's time, and we may presume kept pace with the augmentation of the prebends, as his executors provided forty-two houses; which number corresponds with the number of prebendaries at present attached to the cathedral who are not residentiary. By Elizabeth's charter, as before stated, their number was restricted to twenty; consequently, many of the houses have been thrown into one, and modernised, retaining only the mouldering remains of the elegant chimney shafts. Surely, an uniform retention of the original design could be insisted upon by the bishop as visitor, and, also, an enforcement of the statutes and ordinances by the principals, who seem sadly to have neglected their duty, in thus allowing 'so faire a place' to hasten to decay."

This is a painful, but, we fear, too faithful, and too generally applicable picture of the neglect to which the magnificent and beautiful edifices, erected by the piety, liberality, and taste of our ancestors are exposed. It is evident, indeed, that without some legislative or other interference, all traces of these noble and venerable structures will gradually disappear.

In addition to the great intrinsic merits of Mr. Walker's work, it may be considered as a most appropriate appendix to Mr. Britton's valuable "History of Wells Cathedral."

NEW PUBLICATIONS.

Engravings from the Works of the late G. S. Newton, R. A. By S. Cousins, W. Giller, G. H. Phillips, and D. Lucas. Part I. Hodgson and Graves.

This first Part contains no novelty. Much better prints of all the subjects have been long before the public.

ORIGINAL POETRY.

A DRAMATIC FRAGMENT,

From "Caligula," a Tragedy.

Galba and Cherea.

Galba. Ay, Fame, Fame, Fame!—still harping after Fame;
The veriest cheat that ever led astray
Man's calmer reason, and cajoled his brain!
Our idlest youths are ever following Fame;
Ask but the needy why their rags disgrace
The public streets, and they—they've toiled for Fame!
Hard service—hard, and beggarly repaid.
What's strange, not two speak of this jilt alike:
The first declares she came with laurels crown'd,
Waking wild music from harmonious lyres,
And tempted him with song—a matchless song!
A second vows she wore the crest of Mars,
Dark plume, and flashing sword: and promised power,
Triumphs, and honours! Thus was he seduced,
And thus he limps—a cripple craving bread!
A third, she trod she forum; and 'twas there
Alone she stood, with roll and sweeping robe,
Breathing such eloquence that men were rapt,
And listen'd as to some immortal voice!
A fourth pledged me his faith she might be found [wounds,
'Lone gathering simples: herbs to cure all
Roots to transform cramp'd age to blooming youth,
Drugs to defraud the coffin of its due!
This vowed a lean-eyed hollow-featured wretch,
Pale as though fed on poisons—he vowed true!
Out upon Fame! her gifts are rarely gained;
And being gain'd, they bring not pence of mind—
Nor happiness—but restlesss nights instead;
Sharp jealousies, and fears, and discontents,
With an unhealthy appetite for praise;
Fame's honey'd balsam—that most precious juice [Fame!
Men stake their lives to win!—Oh, faithful
Just Fame! kind Fame! how I do worship thee!

Cherea. Why, thou art mad!

Galba. Then I'm the fitter votary for Fame;
Mad?—all are mad!—Caligula—thou—I—
There 's something in the present air of Rome
Which fevers reason: hence, I pray thee, hence!

Cherea. It is impossible!

Galba. Impossible? nothing 's impossible
To vig'rous minds; they are the weak—the tame—
Irresolute—that cry, "Impossible!"
It is the ready door the coward shuts
Against the face of liberty, and whines,
"Impossible!—oh, 'tis impossible!"
Why, what should keep thee here?

Cherea. Love, Galba! love!
Oh, could'st thou see her! could'st thou hear her speak!
For there is more of beauty in her voice
Than all the beauty of her lovely sex;
If thou wert blind and heard her, thou must think
Her brow.....

Galba. Tush, I've no time for lovers' rhapsodies:
If she were Venus' self, and thou her Mars,
If Venus may be her comparison,
Still louder, deeper, should I urge thee—hence!
So, if thou seek'st not ruin, on with me!

C. Swain.

BIOGRAPHY.

MR. JAMES POWER.

We have to record with feelings of sincere regret, the death of this eminent music-publisher, and most excellent man. He died on the evening of Friday, the 26th ultimo, at his house, 22 Buckingham Street, Strand, after a very short illness, and at the age of seventy, according to the newspaper announcement.

As "the noblest work of God," an honest man, and as an upright tradesman, Mr. Power enjoyed the respect of every one to whom in the way of business he was known; as well as the private friendship of many distinguished individuals, and the personal esteem of all who were capable of appreciating the moral dignity of his character. But it is as connected with national music and literature, that the name of James Power will long be remembered. He was the early and unostentatious patron, and, subsequently, the steady friend of Moore, when adverse circumstances clouded the poet's fortune.

Mr. Power was born at Galway, in Ireland; his parents were highly respectable, but they had the good sense, instead of allowing their son to grow up a fox-hunting gentleman, to apprentice him to a pewterer in his native town. By the same regularity of habit, and attention to business, which distinguished him in after life, James Power soon became so skilful an artificer, that he undertook to repair the bugles of a light infantry regiment, then quartered at Galway. This undertaking, although at the time he was perfectly ignorant of the construction of the instrument, was accomplished by him so skilfully, that the bugles and trumpets of different regiments in Ireland, were sent to him for repair. Finding the reputation of his workmanship was daily increasing, Mr. Power removed to Dublin, and established himself in Westmoreland Street, as a military instrument-manufacturer. This step involved the necessity of dealing a little in music, and he took a younger brother (Mr. William Power) into partnership, for the purpose of attending to his increasing business.

The demand in Dublin for lyrical compositions, induced Mr. Power to enter into the speculation of offering Mr. Moore, some of whose productions had already been published by him, the sum of fifty pounds for a set of twelve songs, adapted to Irish melodies, to be arranged by Sir John Stevenson. We have been told that the success of the first number of the "Irish Melodies" was such as to induce the Messrs. Power to enter into an agreement with Mr. Moore, for an annuity of five hundred pounds for seven years, on condition of receiving from him a certain, and not very large number of songs. And this agreement was, we believe, twice subsequently renewed by Mr. James Power, who, shortly after the appearance of the second number of the "Irish Melodies" (October 1807), removed from Dublin to London, and commenced business as a music-publisher on his own account, at his warehouse, No. 34 Strand.

The publications of Mr. Power embrace a collection of the compositions of the most popular lyric writers of the last thirty years, which were always produced from his press in a style of neatness of embellishment, superior to all contemporary works. Many of them have received a passing tribute of approbation at our hands, as a reference to the pages of the *Literary Gazette* will prove. But the principal work with which the name of James Power will remain proudly associated, is the collection of "Irish Melodies" by Moore, arranged by Stevenson and Bishop; a publication which extends to ten numbers, with a supplemental one, and appeared at intervals between 1807 and 1834, a space of twenty-seven years, with undiminished popularity. The publisher, although as unostentatious a man as ever breathed, and most strongly opposed to the tricks of puffing, appears himself to have felt a degree of honest pride in his connexion with this beautiful national work, from his having latterly adopted the punning imprint of "*The Power of Melody*," around an Irish harp.

Mr. Power has left a widow and a large family, by whom no doubt his lucrative business will be carried on, as he possessed the copyright of many valuable musical and literary works.

DRAMA.

English Opera. — On Wednesday evening an extraordinary sensation was created by the appearance of a Mr. Leffler as *Hela*, in the *Mountain Sylph*. Owing to the indisposition of Mr. Bland, it seems, this gentleman, who was about to make his *début* in Romer's forthcoming opera, was suddenly called on to supply his place; and the accident has not only exceedingly delighted the musical public, but in one evening established a first-rate favourite upon the stage. Mr. Leffler's voice is a baritone, like Mr. Phillips', and certainly not inferior in quality to any upon the stage. It is, indeed, eminently sweet; and his execution no less beautiful. The "Farewell to the Mountain," was rapturously encored; and the whole music of the piece was given in a style to call forth bursts of the most unanimous applause. The treat was unexpected, but no preparatory laudation could have prevented its

producing a prodigious effect: we congratulate the town on the accession of a new singer of such talent and power of pleasing.

Strand Theatre.—On Monday Mr. W. J. Hammond made another hit as the "Man who couldn't help it, Job Pippins," and cleverly passed the ordeal of his five perils, the first and fourth of which are equal in broad humour and ludicrous situation to any thing we have seen for a long time. We will not attempt to describe, but recommend our readers, old and young, and more especially those troubled with "Dolefuls, Blue Devils, &c." to go and get cured by Job Pippins, at which we have laughed so heartily this week that our sides ache, and "we can't help it." It is followed by *The Bill-Sticker* and *Othello*, in all of which Mr. Hammond sustains the hero. Our old favourite, Miss Daly, continues to improve in the grotesque and ludicrous; and the more we see the more we like her.

VARIETIES.

Scientific Meetings.—The meeting of German naturalists at Jena, this year, will be from next Saturday to the 26th. The meeting of the Cornish Geological Society (to which many geologists have gone from Bristol) was fixed for yesterday, at Penzance.

Capt. James Ross.—We rejoice to see the safe return of this gallant and able officer announced: he brings no intelligence of the William Torr, the missing Greenland ship.

London Medical Education.—During the last year 450 certificates for practice were granted by the Apothecaries' Company, some of them with high additional testimonials in consequence of the ability displayed by the candidates: 166 have been directed to resume their studies, and 66 have been rejected solely on account of their ignorance of Latin.

Curious Fact in Natural History.—The *Falmouth Packet* states, that a small ray, caught by Binney, a fisherman of St. Ives, about two years ago, and thrown into the sea again by him, after cutting the letters I B upon the skin of its belly, was caught, on Monday week, off Cape Cornwall, nearly a full-grown fish, and with the letters perfectly distinct, and about six inches in length. This ray was, therefore, evidently a fish of letters, and, as in men the early love of literature, they had

"Grown with its growth, and strengthened with its strength."

Oxford Wit.—"A wealthy and well-known London brewer, thought proper to join a pack of fox-hounds one day, and on the occasion appeared with moustaches. He was well mounted, and dressed in a very conspicuous manner. A French nobleman who was present, and was struck by his appearance, asked Lord A., if he was not *un grand militaire*. 'No,' replied his Lordship, 'il n'est qu'un Chevalier de Malte.'—A well-known poet sacrificed too liberally to Bacchus one evening at the Athenæum, and was led home by an acquaintance of his who was in a more sober state. The day had been wet, and the kennels were full of water. The poet fell into one of them, and pulled his companion after him, who exclaimed, in allusion to one of the poet's lines. 'It is not *I*-ser rolling rapidly, but *we*-sir.'—An old gentleman while handing his snuff-box round a table, boasted much of its antiquity, and said that it had been a hundred years in his family. 'Has it?' retorted a wit, 'then it is only a sentry (century) box after all.'"—*Jesse's Angler's Rambles.*

Con.—Why was Aliband like an unborn donkey? Because he was an *ass-ass-in*.

LITERARY NOVELTIES.

In the Press.

Streams of Knowledge from the Fountains of Wisdom; consisting principally of Extracts from Shakespeare, &c.; interspersed with Sayings of the Wisest Men since the days of Solomon.

LIST OF NEW BOOKS.

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METEOROLOGICAL JOURNAL, 1836.

August.		*Thermometer.*			*Barometer.*		
Thursday..	18	From 48	to	73	29·98	to	29·86
Friday	19	 53	..	69	30·07	..	30·03
Saturday ..	20	 44	..	63	29·91	..	29·56
Sunday....	21	 44	..	66	29·81	..	29·83
Monday ..	22	 47	..	67	29·74	..	29·62
Tuesday ..	23	 53	..	61	29·54	..	29·64
Wednesday	24	 47	..	61	29·83	..	30·05

Prevailing winds W. by S. and N.E., except the 19th and 21st, generally cloudy, with frequent and heavy showers of rain.

Rain fallen, 1·1 inch.

August.		*Thermometer.*			*Barometer.*		
Thursday..	25	From 43	to	66	30·07	to	29·98
Friday	26	 46	..	64	29·91	..	29·92
Saturday ..	27	 42	..	69	29·93	..	29·89
Sunday....	28	 52	..	64	29·90	..	29·93
Monday ..	29	 44	..	66	29·99	..	30·02
Tuesday ..	30	 50	..	67	30·06	..	30·07
Wednesday	31	 52	..	71	30·01	..	29·94

Prevailing winds, S.E. and S. by W. Generally clear, except the 25th, mornings of the 26th, and 28th; rain on the mornings of the 26th and two following.

Rain fallen, ·35 of an inch.

Edmonton. CHARLES HENRY ADAMS.

TO CORRESPONDENTS.

The extent to which we have again carried our Report of the Meeting at Bristol, has curtailed our other departments; but when the importance of its proceedings to Science, not only now, but hereafter, is considered, we trust that both the scientific details, and the observations intended for future improvements, will be read with a degree of general interest to excuse the delay of other matters.

To the Editor of the Literary Gazette.

SIR,—I need not say that I participate in the general feeling of admiration which I hear expressed on all sides of the statue in Pall Mall. May I, however, be allowed to ask whether the feather in the hat is correct. I have very many times seen the venerated person whom the human figure is meant to represent, and in various uniforms, and I have a strong impression that on no occasion did he wear a feather. I may be mistaken, but still I think I cannot be. Yours, &c.

A SINCERE LOVER OF THE GOOD OLD KING.

We insert this note with pleasure, as a just tribute to the merits of Mr. Wyatt's work, and have only to say to our correspondent that his remark is, to a certain extent, quite correct. We believe that the king never wore a feather in his hat till a late period when the regiment of Blues came to do duty at Windsor, when his Majesty adopted it in compliment to their uniform.—ED. L. G.

We thank "a Constant Reader" for the suggestion respecting Sgricci, but the trifle is hardly worth correction.

To E. N.—We were aware of earlier versions of "The Kayser's Three Questions," but liked that sent to us so well that we gave it place as a variety in our columns.

Absence must excuse our not having written to T. S. (anecdote of Coleridge). The simple fact it related might be told in ten lines, and we therefore declined a long letter on the subject.

F.'s lines are declined.

Though T. H. (of Manchester) writes very affectingly, we do not find originality enough in his subject to induce us to publish.

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